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AUSTRALIA'S ROLE IN THE CONTEMPORARY COMMONWEALTH.[1]

By FRED. ALEXANDER,

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My first words must be to express appreciation of the honour you have done me by the invitation to address this distinguished gathering, at the first ceremony of The Royal Australasian College of Physicians to be held in Perth. I voice this appreciation not just as a personal matter; I do so on behalf of the social sciences, of which I stand tonight as a representative, however unworthy. It is tribute to the alertness of the Australasian College, and to its recognition of the importance of current trends in the Australian and New Zealand communities, that you should have given this prominence in your proceedings to a subject which may seem to have no direct relationship to the highly specialized problems of medical science with which you are professionally concerned.

I say this as no mere courtesy tribute from a guest speaker. Those of us who work in different branches of social science have been much encouraged in recent years by the frequency with which men distinguished in the natural, the physical or the biological sciences have emphasized their awareness of the potential significance for all professions of social changes in the contemporary world.

This recognition pays social scientists a compliment which I am afraid we have been unduly slow in returning. We have done much less than we should have done to keep ourselves fully informed about developments in other branches of science. We have not yet reached the position where, as social scientists, we may take the greatest possible advantage of all types of scientific progress, where we may even, if necessary, prepare to guard against some of the consequences of scientific discovery. In fairness to my colleagues in different branches of social science, however, I think I may safely say that we are aware of the challenge; we certainly welcome the readiness of scientists in other fields to collaborate with us in the common interest of the community.

In selecting "Australia's Role in the Commonwealth" as the title of this address, I believe I have chosen a subject which is as significant for medical practitioners in Australia and New Zealand as it is for economists or politicians or for any other member of either Dominion who takes his citizenship seriously. This is a subject in which the stern march of recent events is not to be denied. The hard facts of the post-war years are forcing us to reconsider old attitudes to the Commonwealth—to reconsider them in the light of new evidence and of rapidly changing conditions. In determining our considered view of Australia's role in the changing Commonwealth, I believe that this community of ours both needs and has the right to receive the contribution of those whose professional training and experience have been in a branch of physical or medical science, no less than of those who have profited by the disciplines of history or economics, of law or politics. I hope I shall not be thought to abuse the privileges of a guest if I express the hope that, in the future, the Australian community may enjoy, more fully than it has enjoyed in the past, the deliberate application of medical training and experience to all the broader problems of citizenship. I stress this hope because I believe that the social scientist is coming to realize that he cannot succeed without the active collaboration of his colleagues in all other fields of scientific inquiry.

In this regard we Australians may profit by what is happening elsewhere in the Commonwealth. During 1950, as I worked my way through three Dominions as well as

[1] Read at a meeting of The Royal Australasian College of Physicians, Perth, October 18, 1951.

the United Kingdom, I found some striking examples of the vigour with which men trained in medical science were engaging themselves actively in political and social problems.

One of my most vivid memories of four and a half months in South Africa is of a Sunday morning drive in the Orange Free State, a drive out to the little town of Thaba 'Nchu, some 35 miles from Bloemfontein. At Thaba 'Nchu, in a little house opposite a modern hospital which bears his name, I was to interrupt the surgery hours of a full-blooded Bantu, Dr. J. S. Moroka. Descendant of a native chief famous in South African history and graduate of Edinburgh University, Dr. Moroka is now President-General of the Bantu National Congress. In addition to the duties of a busy practice, he is actively engaged in combating the Afrikaner racialism of Dr. Malan's Nationalist Government. As we broke up an hour and a half's conversation to return to the doctor's surgery and to my car, I twitted Dr. Moroka on the evident devotion of a long line of European patients still waiting outside his surgery door. (Their presence there, by the way, was visual confirmation of a professional reputation of which I had already heard a good deal in cities as far away as Cape Town and Johannesburg.) My host's reply suggested a nice sense of humour, combined with a mild cynicism perhaps not without its uses in the practice of medicine as well as in politics: "Ah well", he said, "there are some Europeans in South Africa who still believe in witchcraft."

The study of the history of the British Commonwealth—prerequisite to any attempt at appreciation of Australia's role in that Commonwealth today—is one that should come very readily to the experienced physician. In examining the problems of the Commonwealth at any stage in its history we are dealing with something organic in character. It is not enough to look at the several parts of the Commonwealth, as they exist today, merely in terms of geographical position or of economic resources or of racial composition. Effective diagnosis requires a case history which may reach far back into the record of other members of the family in what may have been a very different environment. The political practitioner who is concerned with the health of any member of the Commonwealth today must needs consider the effect upon his patient of both heredity and environment.

Perhaps I may be permitted to apply to the British Commonwealth some wise words of an English historian about the Constitution of his own country: as the late Sidney Low put it, any account of the English method of government must be like the picture of a living person. Low wrote as follows as far back as 1904:

> If you want to see exactly how the original appears, you do not refer to a photograph taken twenty or thirty years ago. The features may be the same, but their expression, their proportions, and their whole character have changed. In the interval between one examination of our public polity and another, the formal part may not have greatly altered, but the conventional, the organic, working portion has been modified in all sorts of ways. The structural elements, it is true, exhibit a wonderful superficial permanence. The Crown, the two Houses of Parliament, the Council of Ministers, the electorate, the Judicature, and the mutual relations of these various powers and authorities, are the material of all the historians and jurists. There is the same machine, or at least a machine which is painted to look the same. But its balance and adjustment has been varied, and its operation is quite different, and needs different handling.

This dictum applies equally well to the British Commonwealth. It requires only an elementary knowledge of the more outstanding events in the history of the British Empire and Commonwealth to recognize how striking has been the growth in less than three centuries. It is less well appreciated how subtly the body politic of the Commonwealth has adapted itself to changing requirements, and how misleading therefore may be the superficial resemblance between the outward forms of today and those of yesterday.

Some two centuries ago, when the thirteen coastal colonies on the Atlantic seaboard of the North American continent successfully challenged an obstinate Hanoverian and a reactionary minister, they did more than win their own independence. The revolting American colonists also posed a very nice question for what remained of the truncated British Empire. George III and his minister North had rejected the harvest which sprang from planting English political ideas in the virgin soil of the New World. The eighteenth-century British Government made its stand for imperial unity even at the cost of local liberty. It made its stand and lost. As a result the Empire lost a limb, but it survived to face what has been a dominant and continuing theme in the story of the British Empire and Commonwealth from the War of Independence to the present day—the problem of reconciling freedom with unity. The issue has been continuous, but it has been most sharply evident in the twentieth-century history of the Commonwealth. As they grew in strength and stature, the several Dominions came to feel that their right to control their own affairs compelled final control over such matters as external trade, defence and immigration—all matters which affected relations between the Commonwealth and foreign countries. How could the freedom of one part to determine its own policy in such matters be reconciled with the unity of the Commonwealth as a whole?

Every schoolboy knows something of the answer to this unity-liberty problem which was worked out in the second half of the nineteenth century through British acceptance of the principles of colonial self-government popularly associated with the name of Lord Durham. What is often missed is the fact that the growth in the content of colonial self-government between 1850 and 1950 has taken place quietly, almost imperceptibly, by a process of gradual, organic change, through modification in the understandings, the conventions, the practice of Dominion and British Governments, not by changes in the law or in the form of the Commonwealth. The striking advances of the last century, from the very limited conception of colonial self-government advocated by Lord Durham to the substantial autonomy envisaged by an Alfred Deakin, a Louis Botha, a Wilfred Laurier or a John Curtin—these advances are very difficult to pin-point at any particular moment of time. They are certainly not to be found in a few dramatic alterations of the outward law or form of the Commonwealth. For more than half a century there was little or no change in the law of the self-governing Empire, while political leaders in the United Kingdom and Dominons were in fact groping their way through the practical difficulties involved in reconciling Dominion autonomy with Imperial unity. The law of the Commonwealth remained virtually unchanged between the passage of the *Colonial Laws Validity Act* of 1865 and the Statute of Westminster of 1931.

Even that famous statute of 1931 did little more than seek to find a legal framework for the political picture sketched by Commonwealth statesmen at the Imperial Conference of 1926, when they declared the self-governing Commonwealth to be a collection of self-governing communities "equal in status, . . . in no way subordinate one to another, in any aspect of their domestic or external affairs, though united by a common allegiance to the Crown and freely associated as members of the British Commonwealth of Nations".

Text-book writers and journalists naturally seize upon the years 1926 and 1931, like that of 1839, the date of Durham's report. The events of these years are rightly hailed as landmarks in the story of the self-governing Commonwealth, but such dates deceive us if they suggest that the process began in 1839 or that it ended in 1931. For the problem of the Commonwealth, the issue of how to reconcile the unity of the whole with the liberty of the part, still persists. In the present post-war era it has, in fact, taken a new and much more difficult form. No warmth of sentimental vaporizing about crimson threads of kinship, no post-prandial platitudes about silken bonds of Empire, or even about common sacrifices in two world wars, can disguise the extent of the changes which have taken place even between 1940 and 1950. There are striking differences indeed between the Commonwealth as it emerged from World War I and the Commonwealth as it is today.

What are these changed conditions, in the light of which Australians must try to shape their role in the present post-war Commonwealth?

First, we must recognize the hard fact that the historic centre of the Commonwealth no longer has the material strength upon which its outer parts could rely and did rely, perhaps too much, in the past. The dreadful price which the people of the United Kingdom paid for their heroic resistance to Nazi domination has affected the periphery no less than the centre of the Commonwealth. Today and tomorrow outlying Dominions must rely more on their own resources, material and spiritual; they cannot continue with confidence to expect that the combined good-will and self-interest of the United Kingdom will suffice to protect all parts of the Commonwealth from the unpredictable consequences of international friction in an atomic age.

It was not always so. In the mid-nineteenth century, when Great Britain had yet to face the full effects of the intensifying of the industrial revolution in both Germany and the United States, when the Royal Navy did really "rule the waves"—in those spacious days a lordly Palmerston might well make Westminster rafters ring to his *"Civis Britannicus sum"*—and less fortunate foreigners quail at the consequences. But "Pam" had behind him an omnipotent navy. Today such combination of ideological self-righteousness and pontifical pride is not possible for any British minister.

A word of caution about this first major change in the contemporary Commonwealth. Frank recognition of the changed position of the United Kingdom in the post-war world is not to be interpreted as defeatist prediction that British inspiration or British leadership may no longer count for much, within or without the Commonwealth. On the contrary, the drive and determination of the recent war years, when the British people were clearly fighting for national survival and not for imperial expansion, won for their qualities of mind and character a respect in at least certain countries overseas which they did not always enjoy in the days of their material and strategic predominance. Australian leaders and Australian people will do well indeed to take full advantage of the courage and inspiration that may be expected to continue to flow out from the British Isles to British communities overseas. But soundness of heart and a free circulation will not of themselves bring health to a member which is exposed to risks of local infection and which does nothing to adapt itself to and protect itself from its own environment.

This brings me to the second major change affecting the contemporary Commonwealth. It concerns the geographical position of its component parts, relative to one another and to the rest of the world. In this mid-twentieth century geography means much more to exposed Dominions than it meant a generation ago. At the risk of disloyalty to my own particular brand of cloth, I would go so far as to suggest that the study of geography is quite as important to Australians today as a knowledge of history. You may scarcely think so if you consider how geography has been taught in our schools; you may doubt still further if you reflect how badly geography is neglected in the Australian State universities, only one of which can yet boast a chair in that subject. In this comparative neglect of geography I am afraid we Australians are running true to type. There is at least symbolic truth in the story of the Australian politician, not so long deceased, who is alleged to have slumbered through an international conference on central European affairs until the penultimate session. He then turned to his patient senior adviser and exclaimed: "Look here, So-and-So, there's no difference, is there, between Czechoslovakia and Yugoslavia?"

It is, of course, a truism nowadays that the application of science to transport and communications has revolutionized our ideas of distance and has made the world potentially one. By annihilating distance, however, science has also created new dangers for communities within the Commonwealth—communities which, a little more than a decade ago, flattered themselves that they were immune from major risks of invasion.

Canada is a case in point. The visitor who returns to British North America, as I did last year, after an absence of ten years, cannot fail to be impressed by the extent to which Canadians are being forced to reexamine their geographical position in the light of the atom bomb. It seems a far cry from those pre-war days, when Canadians, shielded by the might of their continental neighbour and seemingly isolated from storm centres in either Europe or Asia, could afford to indulge in dialectic disputes as to the relative importance of their "North-South" and their "East-West" axes. In those days they might entertain a visitor by the vigour of their academic discussion of the relative merits of closer association with the State Department in Washington or of alleged subordination to the Foreign Office in Whitehall. Today Canadians realize that, with the mounting tension between the two preponderant powers of the post-war world, they may at any moment find their country the cockpit of an atomic struggle between the Soviet Union and the United States. In the mid-twentieth century Canada's geographical position is uncomfortably reminiscent of the bottleneck occupied by Belgium in the historic European wars of the last two centuries.

The sharpening of United States-Soviet Union hostility has been felt even in South Africa. Here, strangely enough, geographical considerations have helped a little to ease the centrifugal force of Afrikaner nationalism. Just as Canadian statesmen have abandoned their pre-war caution about accepting trans-Atlantic commitments and have taken a leading part in negotiating such far-reaching agreements as the North Atlantic Pact, so even Dr. Malan's Afrikaner Republicans have shown increasing awareness of the importance for them of developments in the outside world. Afrikaner Nationalists may yet find a "common cause" with other Commonwealth countries in opposition to Communist Russia.

By us in Australia the increasing significance of geographical situation is much more readily realized today than it was before the fall of Singapore, before the trapping of an Australian division in Malaya and before the bombing of Darwin. It may be doubted, however, whether many Australians appreciate the opportunities, as well as the dangers, with which geographical propinquity presents the Australian people in the post-war Commonwealth. But of these opportunities more anon.

The third major change of recent years which affects the contemporary Commonwealth concerns its racial composition. The British Commonwealth of Nations today is strong in its British traditions. It is also still a British Commonwealth by title, though how long it will remain so entitled is perhaps a moot question. It is certainly no longer predominantly British in race. Full recognition of this fact is of vital importance to Australians. The British Commonwealth of Nations is in truth a multiracial grouping of communities in which the peoples of British stock are heavily outnumbered. The preponderance of non-British races is obvious if you include the three new members of the Commonwealth who were admitted to its ranks at the London conference of British and Dominion Prime Ministers in April, 1949. India, Pakistan and Ceylon together bring some 400,000,000 Asian people into the Commonwealth. It is happily true—and the fact is one of many paradoxes in Commonwealth history—that respect for British traditions, for British institutions and for British standards of behaviour has never been higher in India and Pakistan than since those countries ceased to be under British government. But satisfaction at this should not blind us to the fact that the emotional content of the term "British Commonwealth" means one thing in substantially homogeneous areas of British settlement, such as Australia and New Zealand, and something very different in those new member countries in the Commonwealth which were originally brought under the British Crown by conquest.

Nor is the multiracial character of the Commonwealth today merely a question of British and Asian races. Two out of the four Dominions in the pre-war Commonwealth already contained substantially non-British European races. The French-speaking people of Canada today number some 3,500,000 in a total population of about 12,000,000, which

also includes nearly 2,000,000 who were born, or descended from parents born, in Europe or the United States. If the present rates of natural increase are maintained by the next generation of French-speaking and English-speaking Canadians respectively, it is likely that the present French-speaking, Roman Catholic minority will in due course outnumber those of British stock in the North American Dominion.

In the Union of South Africa the non-British section of the population can already count both a majority of European heads throughout the Union and a majority of seats in the Union Parliament. Rather more than 60% of the European population of South Africa is Afrikaans-speaking. The 40% who are British in race face an Afrikaner majority who have a highly developed racial, linguistic, cultural and political self-consciousness. Nor is South Africa's contribution to the problems of the multi-racial Commonwealth lessened by the fact that its English-speaking and Afrikaans-speaking European peoples together total a mere 2,500,000 against more than 8,000,000 Bantu, more than 250,000 Indians, and a round 1,000,000 of mixed or "coloured" people.

Even if we put aside for the moment all thought of New Zealand's Maori minority, it was already clear before the last war that one of the tests of the British Commonwealth would lie in its ability to develop an overriding sense of loyalty to the larger community of the Commonwealth among the several racial communities within its self-governing members.

The admission to full membership of India, Pakistan and Ceylon has thus merely emphasized a pre-war characteristic of the Commonwealth which has been too little appreciated in its substantially homogeneous States, Australia and New Zealand. If the problem of reconciling Imperial unity with Dominion autonomy has been the dominant theme of the story of the British Commonwealth, there has also been an important secondary theme at work ever since Wolfe scaled the heights of Abraham and Amherst organized the subsequent conquest of a Canada whose people were alien in race, in religion and in language.

Viewed as a whole, the Commonwealth has a record of substantial if limited achievement in its effort to create a *communitas communitatum*, a sense of loyalty to the larger community, while preserving the autonomous rights of racial, religious and cultural communities within it. In North America the empirical gropings of British and Canadian administrations in the eighteenth and nineteenth centuries eventually built up a policy which has had steadily increasing success in recent times. There has developed in British North America a real sense of Canadian community and of Commonwealth responsibility among both the French-speaking and the English-speaking peoples of that Dominion. The importance of the now harmonious functioning of this multiracial community in British North America is not lessened by the regrettable difficulties still experienced in evolving a distinctively South African community out of the diverse races in the Union. Here the recent war and its aftermath have intensified rather than lessened the difficulties. Whereas World War II gradually strengthened the multiracial Canadian community, both economically and spiritually, it had the unfortunate effect of reviving and sharpening old Boer-British rivalries and suspicions south of the Limpopo. No dispassionate observer may deny the potentially disruptive effects of this both upon the Union itself and upon the Commonwealth as a whole.

It is also no exaggeration to say that World War II and its aftermath were necessary to bring home to Australians and New Zealanders the significance of their geographical situation. The early disasters of World War II were necessary to convince Australians of some of the consequences of their position as an outpost of Western civilization in the South-West Pacific, an outpost in this remote corner of the Pacific, where even those of our northern neighbours who are members of the Commonwealth are Asian in race and in culture, however much they may retain of British forms and British traditions of government, and where other manifestations of Asian nationalism are linked with ideas and practices directly opposed to the British tradition.

These are the changed and still changing conditions in and around the post-war Commonwealth. I submit that every Australian and every New Zealander should take account of these changes before he may properly seek to determine the role of his country in the contemporary Commonwealth. Not every Australian or New Zealander, of course, will give the same emphasis to each of the three major changes I have outlined. As emphases vary, so will diagnoses differ when current problems of the Commonwealth are under examination. And as the diagnosis differs so also will the prognosis and the treatment prescribed. Here the practitioner's individual experience and his personal predilections are bound to enter to some extent. In what remains of my address tonight let me doff the mantle of the historical investigator and offer you what are quite frankly my personal views of Australia's role in the changing Commonwealth—personal views which I do not thrust upon you, but of which I invite your critical consideration.

First, I would repeat and extend what I have already said of the value to Australians of the closest continued association with the older members of the Commonwealth. This country and New Zealand may continue with advantage to draw heavily upon the knowledge, experience and inspiration available in Great Britain. I believe this continued association with the United Kingdom should be fostered at every level—the political, the economic, the cultural and the scientific. It is good that Australian universities should still retain the closest affiliations with those older institutions upon which they were so closely modelled, and from which they have inherited, and still happily retain, strong traditions of independence of thought and inquiry and of administration. It is good that there are professional institutions like your Australasian College which seek to develop similar standards in necessarily somewhat different circumstances from those of a parent College in London. If I do not labour this point, if I do not spend time in stressing the equally desirable maintenance of close association with intellectual activities in the United States of America, it is because these needs will already be fully appreciated by my audience tonight.

Less widely appreciated, perhaps, are the need and the opportunity to strengthen the associations between Australia and the other three Dominions which, with the United Kingdom, comprised the pre-war Commonwealth. There is room, in particular, for considerable extension of the contacts between Australia and Canada and between Australia and South Africa. The need exists in all types of association. At the end of 1949, when I began a period of investigation in South Africa, it was a shock to be informed that I was the first Australian professor in any branch of social science ever to have worked in the Union. The value of such inter-Dominion academic associations is not widely appreciated. We in the University of Western Australia have this year had another social science worker in the South African field, in the person of a senior member of the Faculty of Law; but Australian university authorities as such have been regrettably unresponsive to proposals for organized exchanges between the two Dominions. The stronger centripetal attraction to older European or American institutions is, of course, intelligible, both with post-graduate students and with university governing bodies.

I believe I am right in saying, however, that both the demand and the opportunity exist for closer inter-Dominion associations between this country and both Canada and South Africa. I recall the sequel to a Rotary address in Johannesburg last year, of which the local Press report included a brief reference in such terms. Next morning a deputation waited on me in my hotel. Its members came as spokesmen for medical students in their final year at the University of Witwatersrand. The deputation sought my help in furthering a request that graduands from South African medical schools might spend twelve months' training in Australian hospitals. The deputation argued that they sought a means not only of acquainting themselves with Australian work in their chosen profession,

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but also of carrying back to South Africa a first-hand acquaintance with Australian life and thought.

I would repeat that these opportunities for direct contact between the several Dominions have not yet been fully explored. I believe that they should be fully explored at all levels—professional and academic, political and economic, social and sporting. We already have a certain number of organizations which embrace both Australia and New Zealand. All branches of science, including the social sciences, now benefit by the fact that the Australian and New Zealand Association for the Advancement of Science covers both South Pacific Dominions. The establishment of the National University at Canberra also leads us to hope that we may not have to wait for another jubilee year to ensure that distinguished visitors from other Dominions attend our national academic gatherings. It is perhaps not improper for me to express the hope that annual meetings such as those of this Royal Australasian College may be made the occasion from time to time for visits to Australia of distinguished Canadian or South African physicians.

I stress the importance of such inter-Dominion movement as well as that which is constantly taking place between the periphery and the historic centre of the Commonwealth. I stress it because I believe that the account I have given you of the changing trends of recent decades inevitably suggests greater responsibilities for each of the older Dominions in the contemporary Commonwealth. I would be very reluctant to suggest that Australian spokesmen at Commonwealth or international gatherings should forget the limitations set by the comparatively restricted manpower and resources of this country. Self-restraint should be as important a quality in Australian representatives as self-assertion. But no country, however densely populated or however strong, can claim a monopoly of either brains or courage. Australian representatives at international or intra-Commonwealth conferences, who carry with them the fruits of earnest thought and inquiry, conducted with the proper equipment, human and material, and followed through with independence and vigour—such representatives may exercise an influence out of all proportion to the limited manpower or the material resources which their country can command.

This argument is strengthened by consideration of that geographical necessity and that new emphasis upon its multiracial character which I gave you as the second and third major changes affecting the contemporary Commonwealth. I believe that Australia and New Zealand have special opportunities as well as potential dangers arising from their relations with our northern, Asian neighbours. There has been much talk in the last two decades of the peculiar service which Canada has been able to render to the Commonwealth as a bridge between its historic partner the United Kingdom and its continental neighbour the United States. It may as fittingly be argued that Australia has peculiar opportunities to assist in interpreting South-East Asia, and even the Indian sub-continent, to both United Kingdom and United States, and *vice versa*.

To some this plan may seem pretentious for a nation of 8,000,000 people still grappling imperfectly with their own domestic problems. There is, however, no sharp dividing line between domestic development and external influence. There is no denying that we Australians do have something to offer to our northern neighbours. We are also fortunate in that we have nothing to live down in our former association with them—unless it is the misleading label popularly attached to our historic immigration policy and the rigid and unimaginative application of that policy on certain occasions.

Some of the things we have to offer our northern neighbours have special relevance for those of us who are gathered here tonight. As a member of a university community I have watched with close attention the post-war extension of the tertiary education facilities of this country to Asian students. I believe that we who belong to the University of Western Australia have some reason to be satisfied with the results of the trouble that we have taken to welcome Indian, Chinese, Indonesian and Malayan students, and to be satisfied also with the reception they have had from the Western Australian student body. Whether the position is identical in all Australian State universities I cannot say from first-hand knowledge. This, however, is a service by Australia to the contemporary Commonwealth, which could, I believe, be extended—always provided that the closest care is given to the maintenance of standards. It would be a short-sighted policy indeed which allowed any falling away from accepted standards through considerations of soft-hearted sympathy. It is also important to take steps not only inside Australia, but also through appropriate authorities within the countries to our near north, to ensure that Australia's educational institutions get some of the best human material that Asia has to offer, and not only those Asian students who doubt their ability to "make the grade" in already overcrowded British universities.

The second service which Australia may render to her northern neighbours is the provision of experts in all fields of knowledge who are ready to go and work outside Australia, as contemplated in the plan presented by the Honourable P. C. Spender at the Colombo conference. Effective execution of this plan clearly requires the informed and active collaboration of members of all professions.

But there is also room for Australian professional men and women to contribute in their own country to the service which Australia may make to its fellow members of the Commonwealth in the Indian sub-continent or among the nation States which have emerged in or near South-East Asia. This contribution may be made, I suggest, by a more specific orientation of research activities within Australia. This is a subject on which a social scientist speaks with a good deal of hesitation; yet, even in this audience I may perhaps be permitted to stress the opportunities for particular types of medical research which would strengthen the relations between Australia and the countries to our near north.

I have a nodding acquaintance with some of the work which has already been done by Australian medical men in the field of tropical diseases, both before and during the late war. The significance of the establishment of the Australian Institute of Tropical Medicine at Townsville in the first decade after federation is not so widely recognized outside the medical profession as it deserves to be. The value of the pioneering work done there by the first three directors of the Institute, Dr. Anton Breinl, Dr. W. J. Young, and Dr. E. S. Sundstrom, is, I believe, highly regarded overseas, even if it has not been so much publicized as that of Dr. Sundstrom's successor, Sir Raphael Cilento. The latter's record, at Townsville and in the Mandated Territory of New Guinea and in the several administrative positions he held in Canberra and in Queensland, certainly attracted the attention of observers from many countries. The layman is impressed by Sir Raphael Cilento's statement in his 1940 volume "Tropical Diseases in Australia" that "there is perhaps no biogeographical area so well situated as Queensland for the study of those tropical diseases that exist within it". The layman's imagination is fired by Cilento's insistence that in Queensland there were more than a million white people, some of the third generation, "living normal lives as working men and women", whose medical problems could be examined "free of the multiple factors that confuse the issue in any country that has a large native population riddled with diseases".

It will, I hope, be forgiven me, in addressing an audience which must appreciate, far more than I can do, the technical significance of the work done by Australian researchers in tropical medicine before and since Cilento, if I seize upon this single example to illustrate my argument that Australia's geographical position in the contemporary, multiracial Commonwealth provides us with real opportunities as well as with potential dangers. I would also use the example to press the point already made that the opportunities extend to Australian men and women in all professions, in the natural and biological sciences no less than in different branches of social science.

If we are to take full advantage of these opportunities, if we are to adapt ourselves to, as well as protect ourselves against, our post-war environment, we need a combination of three things. We need courage; we need imagination; we shall also require the utmost we can obtain in trained skills and applied knowledge. We must face the facts of the contemporary Commonwealth as it actually is, and not as we might wish it to have been. We may indeed draw courage and imagination from the past record of the Commonwealth, from its successes in adapting itself to seemingly insoluble situations. I submit that we shall need also the conscious direction of the highest skills that we can command in all fields. Whether we are applying knowledge to problems within Australia or in our outside environment only the highest possible standards will suffice. If we are to make our maximum contribution in the contemporary Commonwealth, we cannot afford to fob off the near north with the second best—that second best with which we Australians are, by repute, too often content in our everyday lives.

I have said much tonight which, I fear, has had little direct relevance to the aims and work of The Royal Australasian College of Physicians. By concluding, however, with this emphasis on the highest possible standards of training and conduct, I feel that I have made at least one point which is directly appropriate to the distinguished record and the high status of the College under whose auspices I have been privileged to speak tonight.

XANTHOMATOUS BILIARY CIRRHOSIS, WITH REPORT OF A CASE.

By KEITH D. GRAY,
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XANTHOMATOUS BILIARY CIRRHOSIS, from a survey of the available literature, appears to be an extremely rare condition, or at any rate one that is seldom recognized. It was first described as a clinical entity and named by Thannhauser and Magendantz, of Boston, in 1937. I have been unable to find a record of any reported cases in British or Australian medical literature since that date, and a survey of the Royal Perth Hospital records for the past eleven years failed to reveal the presence of a case diagnosed as such. Consequently it would appear that the case to be described, although it deviates in some particulars from the classical description of Thannhauser and Magendantz, is worth recording.

Historical Review.

The association of skin xanthomata with chronic jaundice and liver disease has been described many times in the literature.

The first case was reported by Addison and Gull nearly 100 years ago (1851) in *Guy's Hospital Reports*, and is worth summarizing. A young lady, aged thirty-three years, with the interesting name of Eliza Parachute, attributed her condition to fright and to a blow received in the left groin while attempting to separate two men who were fighting. Two days after this she became jaundiced and had from time to time severe paroxysmal pains in the hypochondria, lasting for a day or two, the liver being enlarged and tender. She remained in hospital for two months "and left in much the same state as when she was admitted. There was at this time nothing complained of beyond itching and irritation of the skin common to jaundice". Fourteen months after the onset of the jaundice she developed xanthomatous plaques, firstly in the palms of the hands and fingers and then on the eyelids near the inner canthi, "and some distinct tubercles exist on the elbow and knee".

The first post-mortem findings in one of these cases were recorded by Moxen in 1873. His case was that of a man, aged thirty-two years, who had been severely jaundiced for two years with two attacks of colic; he had xanthelasma on the palms, scrotum, back, ears, cheeks and eyelids. He died of hæmorrhage from an hepatic lesion. The post-mortem examination revealed only hepatic cirrhosis, no gall-stones.

Since these reports various authors have reported cases in which they have noted the association of chronic jaundice with skin xanthomata. However, Thannhauser and Magendantz, of Boston, in 1937, were the first to describe the condition as a clinical entity. They named it "xanthomatous biliary cirrhosis", and stated that it was characterized by the following features: (i) skin xanthomata of the plain and tuberose variety; (ii) enlarged liver and spleen; (iii) obstructive type of jaundice of years' duration; (iv) extremely high values of total blood cholesterol as well as lecithin; (v) transparency of the serum, not creaminess, despite the outstanding increase of cholesterol and lecithin; low values for neutral fat in the serum. Thannhauser and Magendantz in their original paper considered that the condition was a systemic disease characterized by hypercholesterolæmia with xanthoma formation on the lining of the larger bile ducts resulting in biliary cirrhosis.

However, in 1949 MacMahon and Thannhauser reported fully the clinical histories and laboratory findings in five cases which they had observed over a long period. In four of these cases they described biopsy specimens of the liver taken at an early stage of the disease, and in three cases they described fully the post-mortem findings. The early biopsy specimens showed that in the portal areas of the liver there was a chronic proliferative and inflammatory reaction, which was most pronounced about the junction ducts and terminal bile ducts at the periphery of the lobules. Inflammatory granulation tissue extended into the periphery of the lobules, blocking canaliculi and destroying liver cells. In none of the sections were xanthoma cells found in the walls of the bile ducts. At autopsy the livers were large, firm and cobbled with extensive fibrosis. There were no deposits of cholesterol in any of the bile ducts and no suggestion of any type of extrahepatic biliary destruction.

In explanation of the high blood cholesterol level, Thannhauser considered that the accumulation of cholesterols and lecithin might be caused by increased formation of these substances in the liver, resulting from functional disturbances of the liver cells, together with impaired excretion resulting from obliteration of the finest bile ducts and junction ducts.

Report of a Case.

Mr. A., aged thirty-nine years, consulted me on April 22, 1950, saying that he felt quite well, but that his friends for the past week had been telling him that he was jaundiced. He had had diarrhœa (six to eight motions per day) for the last week, and he had vomited on the previous evening after a "feed of kippers". His motions were a light yellow colour. He had had some slight pain in the right pectoral region recently, but none in the abdomen, the right hypochondrium or the right scapular region. Apart from his recent attack of vomiting he had had no nausea or indigestion. On being further questioned, he admitted feeling very tired during the last two or three weeks, and also said that he would wake in the early hours of the morning with cramp in his calf muscles. He was in the habit of drinking two and a half bottles of beer daily on week-days and four on Saturdays and Sundays. He had never previously had any severe illnesses. His father had died at the age of seventy-two years from cerebral hæmorrhage and his mother had died at the age of seventy-six years, also from cerebral hæmorrhage. He has two brothers who are both healthy, and none of his relatives, to his knowledge, has ever suffered from liver disease.

On examination of the patient, he was seen to be a thin man, five feet five inches in height, and weighing eight stone three pounds. His complexion was a muddy colour, and there was obvious icterus of his conjunctivæ. There was no evidence of any cutaneous xanthomatous plaques. His temperature, pulse rate and respiration rate were normal, and his blood pressure was 130 millimetres of mercury, systolic, and 70 millimetres, diastolic. There was no evidence of arteriosclerosis in his palpable arteries or in his fundal arteries. His liver was easily palpable to three fingers' breadth below the costal margin in the right nipple line, and the margin was firm and smooth. The spleen was

not palpable. General examination, apart from the above, revealed no abnormalities. His urine contained an increased amount of urobilinogen, but no albumin or sugar. Repeated examinations have revealed no glycosuria.

With the idea that he might possibly be developing infective hepatitis, he was treated on expectant lines for several days. However, the condition remained stationary, so he was sent for hepatic function tests to Dr. S. N. Michaels, who made the diagnosis for me. The findings were as follows.

When blood was first taken it was noticed that intense hyperlipæmia developed when it was allowed to stand. This was substantiated by the high plasma cholesterol content of 2747 milligrammes per 100 millilitres—approximately 13 times the normal figure. The following investigations were carried out.

On April 27 urinary urobilinogen was found to be present in normal quantity. The serum bilirubin content was 5·0 milligrammes per 100 millilitres (normal, 0·3 to 0·8 milligramme). The Van den Bergh test produced a prompt direct reaction. The alkaline phosphatase level of the blood plasma was 34·6 units (normal, 3·0 to 13·0 units). The plasma cholesterol content was 2747 milligrammes per 100 millilitres (normal, 140 to 210 milligrammes).

A week later the tests were repeated with the following results. The serum bilirubin content was 7·5 milligrammes per 100 millilitres. The Van den Bergh test produced a prompt direct reaction. The alkaline phosphatase content was 28 units. The plasma cholesterol content was 2050 milligrammes per 100 millilitres.

Dr. Michaels reported that the findings pointed to an obstructive type of jaundice, and the high cholesterol level in association with the clinical picture favoured a diagnosis of xanthomatous biliary cirrhosis.

The Wassermann test produced no reaction.

Blood taken at this stage and allowed to stand presented a startling appearance, as though the clot was surrounded by butter (see Figure I).

The patient was advised to abstain from alcohol and told to take a fat-free diet of low cholesterol content. He was allowed no egg yolk, liver, kidney, brains or fatty meat. Vitamin *B* complex tablets were ordered. On May 25 treatment was commenced with methionine (0·5 gramme three times a day in tablet form), in addition to the vitamin *B* tablets.

On June 6 it was noticed that his serum, instead of looking like butter, now resembled skim milk. His plasma cholesterol content had dropped to 1070 milligrammes per 100 millilitres, and a complete blood count, very interestingly, revealed macrocytic anæmia. A report by Dr. Michaels on this date was as follows. The hæmoglobin value was 13·0 grammes *per centum* (84%, Fisher). The red cells numbered 3,105,000 per cubic millimetre and the leucocytes 7000 per cubic millimetre, 60% being polymorphonuclear cells, 34% lymphocytes and 6% monocytes. The hæmatocrit reading was 39, and the mean corpuscular volume was 126 cubic μ (normal, 82 to 92 cubic μ). Dr. Michaels observed much macrocytosis and some irregularity of size and shape in the corpuscles, and reported that the findings pointed to macrocytic anæmia. The plasma cholesterol content was 1070 milligrammes per 100 millilitres.

About this time I read an article by Drill and McCormick (1949) extolling the virtues of vitamin B_{12} as a lipotropic agent when injected into rats receiving a fat-rich diet. Consequently, for two reasons, treatment was commenced with weekly injections of 10 microgrammes of vitamin B_{12}. In the same journal was an article by W. C. Felch and L. B. Dotti, of New York City (1949), on the depressing effect of inositol on serum cholesterol and lipid phosphorus in diabetics. Inositol was unprocurable in Australia, so we had some imported from England.

Treatment with inositol (0·5 gramme in capsule form three times a day) was commenced on July 20 after a progress estimation of the blood cholesterol content had been made. The blood cholesterol content was 910 milligrammes per 100 millilitres, and the alkaline phosphatase content was 25·8 units. On June 28 the fasting blood sugar content was 0·133 milligramme *per centum*. Glycosuria was absent.

Examination of the blood on September 14, 1950, showed considerable improvement. The blood cholesterol content was 546 milligrammes per 100 millilitres and the alkaline phosphatase content was 19·2 units. A blood count on September 15 gave the following information: the hæmoglobin value was 17·1 grammes *per centum* (110%, Fisher), the red cells numbered 4,430,000 per cubic millimetre, and the leucocytes numbered 8600 per cubic millimetre, 59% being polymorphonuclear cells, 29% lymphocytes, 4% monocytes and 1% basophile cells. The hæmatocrit reading was 45, the mean corpuscular volume was 102 cubic μ (normal, 82 to 92 cubic μ), the mean corpuscular hæmoglobin was 38·5$\gamma\gamma$ (normal, 29 to 31$\gamma\gamma$) and the mean corpuscular hæmoglobin concentration was 38% (normal, 33% to 37%). The red cells were large but undistorted. All the figures showed a considerable improvement.

A repetition of these examinations on November 15 showed a relapse, which, interestingly enough, coincided with an alcoholic relapse. On that date the plasma cholesterol content was 776 milligrammes per 100 millilitres and the alkaline phosphatase content was 22 units per 100 millilitres.

The patient received a stern lecture on the error of his ways, which apparently bore fruit, because a progress examination on February 9, 1951, produced the following striking result: the plasma cholesterol content was 143 milligrammes per 100 millilitres and the alkaline phosphatase content was 14·5 units per 100 millilitres. Thus in nine months his plasma cholesterol content had fallen from 2747 to 143 milligrammes per 100 millilitres, and his serum alkaline phosphatase content from 34·6 to 14·5 units per 100 millilitres.

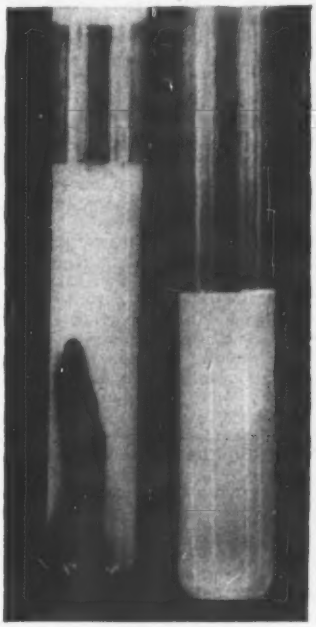

FIGURE I.

Xanthomatous biliary cirrhosis, demonstrating clot surrounded by milky serum.

At the present moment the patient looks and feels remarkably well, although he still has very slight conjunctival icterus, and there is no appreciable difference in the size of his liver. There are still no signs of xanthomatous plaques, and the test for urinary urobilinogen gives negative results. In other words, he has shown an extremely gratifying response to treatment, which, to recapitulate, has consisted of the following: (i) more or less abstinence from alcohol, (ii) a fat-free diet of low cholesterol content, (iii) vitamin *B* complex tablets, (iv) methionine (0·5 gramme three times a day), (v) inositol (0·5 gramme three times a day), (vi) injections of 10 microgrammes of vitamin B_{12} at weekly intervals, and later 20 microgrammes at fortnightly intervals.

The prognosis is, of course, very uncertain. In most of the recorded cases the patients appear to have died within five years of diagnosis. However, Mr. A.'s response to treatment has so far been so encouraging that I am hopeful of a much better prognosis in his case.

Discussion.

It will be noted that in the case reported in the present paper no skin xanthomata are present. However, in most of the cases reported in the literature jaundice precedes the appearance of the xanthomata by several months as a rule. It is possible that the skin manifestations will appear later.

Thannhauser and Magendantz postulate that a transparent serum with low values for neutral fat is an essential diagnostic feature of the syndrome. There is undoubtedly a milky serum in the case reported, but in other respects it resembles the cases reported by Thannhauser.

Most of the cases reported so far have been in females. Thannhauser and MacMahon (1949) made the following statement:

> Concerning the sex incidence of xanthomatous biliary cirrhosis, it has to be assumed from present evidence that this syndrome, with its typical features, has so far been observed only in females.

In none of the other reported cases which I have studied was macrocytic anæmia present. This anæmia may be explained by inability of the damaged liver to fulfil its function as a storehouse of the hæmatinic principle.

It is of interest to note that the lipotropic agents employed in the treatment of this patient were all members of the vitamin *B* complex with the exception of methionine, an essential amino-acid, which is credited with being a precursor of choline—also a member of the vitamin *B* complex. This causes one to speculate as to whether the condition may be due to a vitamin *B* deficiency, following chronic alcoholism. Of course there must be some other factor present, otherwise all chronic alcoholics would develop this condition. In support of this theory may be mentioned the work of Best and his collaborators in 1949. Working on experimental animals fed on a diet "believed to be satisfactory in all respects except in the amount of lipotropic agents", and supplemented with alcohol or sucrose, they produced fatty infiltration followed by fibrosis of the liver. They also showed that the liver lesions could be prevented by the intake of choline, methionine or casein. Admittedly, the liver damage produced in these experiments differs from that described by MacMahon and Thannhauser in their cases of xanthomatous biliary cirrhosis.

However, there does seem to be a significant association between the result of their experiments and the response of my patient to lipotropic agents of the vitamin *B* complex.

The possible sequence of events in the reported case may have been as follows: chronic alcoholism leading to deficient intake of vitamin *B* complex and proteins, which in turn caused liver damage resulting in obstructive jaundice, hypercholesterolæmia and macrocytic anæmia.

Summary.

1. A case of obstructive jaundice, hypercholesterolæmia and macrocytic anæmia resembling xanthomatous biliary cirrhosis, with the patient's response to treatment, has been described.

2. The available literature dealing with this condition has been briefly reviewed.

3. A theory that the condition may be the result of vitamin *B* complex deficiency has been presented.

Acknowledgements.

First and foremost I wish to thank Dr. S. N. Michaels, who first suggested the diagnosis and who performed all the pathological investigations. I also wish to thank Miss Bryan, of the library of the Western Australian Branch of the British Medical Association, for obtaining references for me, and also the librarian of the library of the University of Adelaide, for forwarding some of the literature which was unobtainable in Perth.

References.

Addison, T., and Gull, W. (1851), "On a Certain Affection of the Skin, Vitiligoidea—(*a*) Plana; (*b*) Tuberosa, with Remarks", *Guy's Hospital Reports*, Volume VII, page 265.

Best, C. H., *et alii* (1949), "Liver Damage Produced by Feeding Alcohol or Sugar and its Prevention by Choline", *British Medical Journal*, Volume II, page 1001.

Drill, V. A., and McCormick, H. M. (1949), "Lipotropic Effects of Vitamin B_{12} Concentrate", *Proceedings of the Society for Experimental Biology and Medicine*, Volume LXXII, page 388.

Eusterman, G. B., and Montgomery, M. D. (1944), "Disorders of the Liver and Extra Hepatic Biliary Ducts Associated with Cutaneous Xanthoma and Hiperlipæmia", *Gastroenterology*, Volume III, page 275.

Felch, W. C., and Dotti, L. B. (1949), "The Depressing Effect of Inositol on Serum Cholesterol and Lipid Phosphorus in Diabetics", *Proceedings of the Society for Experimental Biology and Medicine*, Volume LXXII, page 376.

MacMahon, H. E., and Thannhauser, S. J. (1949), "Xanthomatous Biliary Cirrhosis (A Clinical Syndrome)", *Annals of Internal Medicine*, Volume XXX, page 121.

Moxon (1873), "Jaundice and Xanthelasma", *Transactions of the Pathological Society of London*, Volume XXIV, page 129.

Thannhauser, S. J., and Magendantz, H. (1938), "The Different Clinical Groups of Xanthomatous Diseases; A Clinical, Physiological Study of 22 Cases", *Annals of Internal Medicine*, Volume XI, page 1662.

LARYNGEAL TUBERCULOSIS.

By R. H. BETTINGTON,
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LARYNGEAL TUBERCULOSIS was first recognized as a clinical entity about 1750, though it is known to have existed in 4000 B.C. Its investigation *in vivo* was accomplished soon after Garcia discovered indirect laryngoscopy in 1855.

Incidence.

Laryngeal examination of 20,000 patients with tuberculosis in one sanatorium over a period of ten years showed laryngeal involvement in just less than 11%. Post-mortem findings show a much greater percentage involvement, suggesting that there is frequently a general spread of the disease just before death.

In a series of 6000 cases male subjects outnumbered females in the ratio of 2:1, and the males were usually older than the females. The second and third decades covered the majority of female patients, while the third, fourth and fifth decades contained the greater number of males. The ages of twenty to thirty-five years were found to cover far more cases in both sexes than any other life period. The disease is rare in the very young and the very old. The youngest subject found in the records is a child of three and a half months, and the oldest a man of seventy-six years. American statistics show that the incidence of tuberculosis has been declining for the last forty years with the exception of a slight rise in 1918 after the first World War. Not only did the incidence decrease, but the percentage mortality rate decreased as well.

Most observers agree that primary laryngeal tuberculosis does not occur, though there have been cases in which laryngeal disease was suspected but not proved, and in which no evidence of infection could be found elsewhere in the body. I can find no record of a case in which laryngeal tuberculosis was proved, in which eventually no other focus was discovered, though sometimes this has not taken place until a post-mortem examination was made. The disease is most frequent amongst the poorer labouring classes, both male and female. In other words, fatigue and malnutrition are predisposing causes.

Pathway of Infection.

There are two possible pathways of infection: (i) by direct contact with infected sputum; (ii) by hæmatogenous spread.

For many years the first pathway was accepted as the correct one, but recently many observers have decided that the evidence favours the second. The evidence in favour of the first pathway is as follows: (*a*) There is almost continuous contact between infected sputum and the laryngeal structures. (*b*) The posterior laryngeal areas, or those most in contact with the sputum, are the first

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involved in a large majority of cases. The evidence in favour of the second pathway is as follows: (*a*) The larynx can become involved when there are no tubercle bacilli to be found in the sputum. (*b*) Infection of the larynx sometimes takes place as a general œdematous condition involving all the structures. (*c*) It is now well established that hæmatogenous spread can take place; it happens in tuberculous nephritis and meningitis, also in occasional post-operative spread, so why not in the larynx? The first evidence of disease of the larynx is subepithelial infiltration, and this is frequently intense. This fact has been used as an argument in favour of hæmatogenous spread, but it could also be explained by the presence of a very small undetected area, due to local contact, spreading rapidly into all the other structures. It seems likely, on the evidence, that both paths are involved, the balance of evidence suggesting that the second is the more frequent.

Frequency of Involvement of Various Structures.

As was mentioned above, the posterior portion of the larynx is the more frequently involved, and the lesions tend to be extensively diffuse rather than isolated, so that it is not often that one structure only is affected. The order of frequency in a series of over 1000 cases was as follows: (i) interarytenoid space, (ii) covering of arytenoid cartilages, (iii) vocal cords, posterior portion rather than anterior, (iv) epiglottis, (v) ventricular bands. The other structures are infrequently involved, but any portion may be affected.

Pathology.

It has been suggested that the reaction of the tissue is an allergic one, the tubercle bacillus being the antigen. Certainly examination in an early case reveals intense hyperæmia, which may be localized or general. This stage is frequently symptomless and may be discovered only on routine examination, and it may resolve quickly or go on to the later stages of proliferation or destruction. The nodular tubercle is rare in the larynx, though it does occur. It is usually symptomless and may be the first indication of tuberculous infection in the body.

The obvious pathological changes are very variable, and Myerson has suggested the following classification.

A. Exudative } Infiltration: (*a*) Cellular; (i) diffuse or nodular, (ii) miliary.
B. Productive } (*b*) Fluid (œdema).

Proliferative: Hyperplasia (pachydermia).
Papilloma.
Polypus.
Tuberculoma.
Perichondritis and chondritis.
Fibrosis.

C. Destructive: (i) Ulceration.
(ii) Necrosis.

Again it must be stressed that several of these lesions may be present at the same time. Proliferative and destructive conditions may coexist, though they may not be obvious at the first examination. It is not uncommon to watch an œdematous condition subsiding, and to find that it had concealed necrosis at a lower level.

The tissue changes from a histological point of view resemble closely those in other parts of the body, and I do not propose to describe them. The approach of death leads to a great increase of what may be called metastatic lesions, and a larynx examined just before death and pronounced clear may at post-mortem examination be found to be extensively involved.

Symptoms.

Rarely there may be no symptoms at all.

In order of frequency, the symptoms are as follows: (i) hoarseness, at first mild, going on to aphonia; (ii) pain; (iii) dysphagia; (iv) dryness; (v) dyspnœa; (vi) cough.

Hoarseness is caused by any lesion preventing complete approximation of the cords—for example, (*a*) ulceration, (*b*) œdema, (*c*) any projecting growth, (*d*) fixation or paralysis of the true cords, (*e*) intrinsic muscle atrophy.

There are two varieties of pain—(*a*) spontaneous (local, associated with ulceration, or referred, usually to the ear) and (*b*) induced (this happens only when the larynx moves in swallowing, coughing or speaking, and is associated with acute conditions, posterior ulceration, necrosis, or perichondritis). Pain can be caused by ulcerative lesions outside the larynx, and these should always be sought. It is not unusual to have pain without hoarseness, especially in cases of epiglottic ulceration.

Dysphagia is caused by (*a*) swelling of the arytenoids, (*b*) tuberculoma in the post-cricoid region, (*c*) dyspnœa, because the patient cannot hold his breath long enough to swallow.

Dryness is caused by destruction of the mucous glands.

Dyspnœa is caused by (*a*) extensive œdema, (*b*) tuberculoma, (*c*) contraction due to scarring, (*d*) ankylosis of the crico-arytenoid joints, (*e*) bilateral abductor paralysis of the cords.

Cough is caused by (*a*) excessive secretion, (*b*) irritation.

Diagnosis.

The history is very important in the diagnosis, even though the case may be known as one of tuberculosis. Occasionally laryngeal disease is the first indication of general pulmonary infection.

The early appearances on indirect laryngoscopic examination are those of infiltration and hyperæmia. The late appearances are those of (*a*) proliferative lesions and (*b*) destructive lesions.

The picture is usually characteristic, because multiple lesions are the rule; rarely the condition may not be obvious. The lesions to be differentiated are: (i) chronic non-specific laryngitis, (ii) syphilitic laryngitis, (iii) contact ulcer, (iv) benign neoplasm, (v) malignant neoplasm.

It is not uncommon for tuberculous patients to have other diseases involving the larynx. When in doubt, always have the chest radiologically examined and the sputum tested for acid-fast bacilli. In some cases a biopsy may be necessary, though it is generally inadvisable to perform direct laryngoscopic examination of a tuberculous larynx, as general spread of the disease has been known to follow. If a satisfactory diagnosis cannot be made, then the patient should be kept under observation and the larynx examined frequently.

Prognosis.

Fifty years ago laryngeal tuberculosis was regarded as a hopeless condition, but this idea has altered considerably, owing to improved conditions and improved treatment. The prognosis depends largely on the extent and progress of the pulmonary disease and on the presence of any other complications.

The laryngeal condition nearly always improves if the pulmonary condition becomes stationary. Pulmonary tuberculosis still has a bad prognosis, so always be guarded in your forecast in laryngeal tuberculosis, for there is no sure guide, even though a healed larynx usually means an arrested lung condition; both may break down.

Failure to adhere to the proper routine may contribute to a recurrence, and this failure may be economic and due to bad working and living conditions.

Treatment.

The following statement was made in 1944: "There has never been a satisfactory treatment for all cases of tuberculous laryngitis."

I have not attempted to enumerate the various treatments advocated in the past, because in my opinion almost all of them are now obsolete. The fact that there were so many suggests that none of them were very satisfactory.

The first principle of treatment is that of the general disease. As a rule this will have been instituted before the laryngeal involvement occurred, but if it has not, immediate steps must be taken to see that it is.

The only local treatment of any real value is the negative one of avoiding irritation, and the two main laryngeal irritants are the use of the voice and tobacco smoke. Both these should be strictly forbidden when the larynx is found to be involved, and the patient should be observed at frequent intervals. If and when improvement takes place, then the voice may be used sparingly at first, then more and more strongly as the infection subsides.

The initial silence should be complete; certainly no whispering can be allowed, because whispering is a greater strain on the larynx than the use of the full voice. I venture the opinion that no patient who has had laryngeal tuberculosis should smoke at all, even after the infection has subsided. This is a forlorn hope in most cases, but I always try and insist on it. The trouble is that the tuberculous patient, while at rest in bed, has not enough to occupy him, and with other patients smoking around him he finds it very difficult to resist.

Now we come to the real godsend to these patients, streptomycin. The results of its use have been a little disappointing in pulmonary tuberculosis, but on the larynx the effect is outstanding.

In the early days local treatment with solutions of streptomycin sprayed onto the larynx was tried, but no beneficial results occurred. Then long courses of injections were given, but these also were given up when it became known that a tolerance was likely to be established by that means. Now the accepted idea is a short course of 15 to 20 grammes in half-gramme or one-gramme daily doses. These are accompanied by PAS (para-aminosalicylic acid), usually 12 grammes a day in four three-gramme doses. The PAS, as you know, has no bactericidal effect in itself, but tends to reduce the liability to immunization mentioned above.

I have seen about 200 patients treated with streptomycin at the Repatriation Hospital, Concord, and the Randwick Auxiliary Hospital during the last four years, and the results have been most satisfactory.

The following ideas have impressed themselves on my mind: (i) Laryngeal pain is relieved almost invariably after the first two or three injections. The exception to this is the patient *in extremis*, though some even of these patients responded dramatically at times. (ii) Both proliferative and ulcerative lesions are greatly relieved in nearly every case, and though destruction of tissue cannot be rectified, it is remarkable how little scarring is evident after healing in a number of cases of extensive involvement. (iii) The patients usually feel much better after this course of streptomycin and PAS.

It must be remembered that relapses can take place (these are largely dependent on the pulmonary condition), but the short courses of streptomycin now being given can be repeated without danger of immunity.

I do not wish to give the impression that I consider streptomycin the panacea for tuberculous laryngitis; but it represents a very long stride in the right direction and has made the treatment of these patients much easier and more satisfactory.

Occasionally tracheotomy has been required for severe laryngeal stenosis due to scarring, or to bilateral abductor paralysis. The latter condition can now be treated by fixation of the arytenoids in the abducted position.

Reports of Cases.

I have not quoted any entire clinical histories, but I will refer to three cases of interest.

CASE I.—A male patient was first examined in 1946; he was very emaciated and had complete aphonia. The larynx was very extensively involved with proliferative and destructive lesions. At that time this patient appeared to have a poor expectation of life. He had a long course of streptomycin (80 grammes in doses of one gramme a day). His progress was good, and at the end of his course his larynx was almost normal and his chest condition was also good. This improvement was maintained, and the patient is now well; his larynx has remained almost normal and his chest condition is completely arrested. He has had no recurrence, but is still having artificial pneumothorax treatment on the left side.

CASE II.—A male patient was first examined in 1947; he was another severely affected patient with extensive laryngeal disease. His condition improved greatly with streptomycin therapy. In his case a short course only was given. He has had three recurrences of laryngeal infection and has had tuberculous synovitis of his left ankle joint. Short courses of streptomycin improved his condition on each occasion, and when last examined he was very well, though he has some erosion of his epiglottis.

CASE III.—A male patient was first examined in May, 1951, complaining of hoarseness and sore throat on the left side, and also of pain in the left ear. He has had three short courses of streptomycin therapy in the last two years. Examination of the patient showed complete absence of the epiglottis; the stump was healed over and appeared inactive. There was an active ulcer of the left cord in the posterior two-thirds.

I mention this case because there was no complaint of coughing or laryngeal irritation on swallowing, in spite of the absent epiglottis.

Conclusion.

I hope this short paper may be of value to those who have not had opportunities to use streptomycin extensively in the treatment of laryngeal tuberculosis, a condition which has, in the past, been a bugbear to all laryngologists.

Summary.

Laryngeal tuberculosis is found to be more common in males than in females. The age group most frequently attacked is that from twenty to thirty-five years, and the wage-earning sections of the community are more liable to infection than others.

There is evidence that two modes of infection are involved: (i) direct contact, (ii) hæmatogenous spread.

The pathology is grouped under two main headings—(*a*) proliferation, (*b*) destruction. There are a large group of symptoms depending almost entirely on the underlying pathology.

The diagnosis is easy as a rule because of already established pulmonary disease, but in some cases separate pathological conditions are present. Also the laryngeal condition may be the first suggestion of disease, and then chest X-ray examination and sputum tests will be required.

The prognosis is improving, but is still grave.

The treatment suggested is by the avoidance of irritation and the use of short courses of streptomycin and PAS.

Reviews.

HEADACHES.

NOAH D. FABRICANT has written an unusual book about headaches.[1] He points out that approximately one-half of all patients who visit the doctor have headaches as one of the symptoms. Furthermore, if any have the ill luck to have them as major symptoms, they may have to undergo the whole gamut of medical investigation. In the process, *inter alia*, teeth and tonsils may be lost, glasses acquired and Œdipus complexes adjusted. There is need therefore for patients to have a simplified account of the machinery and treatment of this complaint.

The book is written by a doctor who knows the pitfalls of practice and the vagaries of patients. It tells the latter to be guided by thorough medical advice and to avoid the nostrum vendors. He points out that there is probably no other field in which exploitation is so common. Pain killers

[1] "Headaches: What Causes Them: How to Get Relief", by Noah D. Fabricant, M.D.; 1951. London: Staples Press, Limited. 7¼" x 5", pp. 160. Price: 7s. 6d.

are dangerous. Many who seek relief for headaches by such means face death from agranulocytosis, chronic drug poisoning, confusion of mind or even death through the avenue of suicide. On the other hand the author is careful to point out that often after complete medical investigation the headache may remain. The sufferer must resign himself to stoic resignation. He reminds us of Dr. Oliver Wendell Holmes's remark concerning the curability of hay fever: "Gravel is an effectual remedy and it should be taken about eight feet deep."

The opening chapter deals with the need for a careful history. It is followed by others on headache and the eye, facial neuralgias and pains in the neck. headaches and the nose. Others deal with sinus headaches, migraine, psychogenic headaches, high blood pressure and constipation, headaches from brain disturbances and "a variety of headaches".

In his final summing up he insists that: "A person suffering from a severe headache or from recurrent or persistent headaches should place himself under a competent physician as soon as possible." If he must take drugs, aspirin in five grain doses is the simplest and safest remedy.

The author has compressed a great amount of headache information into small space. It is highlighted by apt quotations as varied as in an account of the headache which preceded the death of Franklin Roosevelt to the aphorism of Alvarez as a warning against indiscriminate purgation: "Most students of the subject of autointoxication have actually come to the conclusion that man is safest from poisoning when he is constipated."

The book is worthy of a place in every practitioner's bookcase, if only to lend to the occasional intelligent patient who needs further instruction in the rationale of his complaint. It would be wise, however, to mark the relevant pages or the reader might browse too far afield and acquire new complaints.

HUMAN PHYSIOLOGY.

"HUMAN PHYSIOLOGY" appears with the name of Bernardo A. Houssay on the cover, and his name together with those of his colleagues from Argentina in the list on the title page.[1] It is a list of distinguished names: Lewis, Orias, Braun Menendez, Hug, Foglia and Leloir. The book appears as a result of co-authorship, not as a group of sections written by individuals under an editor. It is a book of 1063 large pages of textual material in two columns per page. The paper is of good quality, and the type face, printing and binding make the book pleasant to handle and read. The line drawings are well produced, but the tone plates are not of high standard: generally the illustrations appear to be included because the authors think that illustrations should be used. There is no attempt to use recent techniques of visual education. (It might be noted that Figure 241 is upside down.)

In the preface Houssay states that the book is for study by medical students before they have studied pathology, that is, it does not purport to be a book for post-graduates. The preface is admirable in the considerations presented, including the need for knowledge of comparative physiology. The book, however, bears the title "Human Physiology", and having in view the purpose of the book and this title, one would expect that in all cases in which data from the human are available, they would have been used; this is not always the case. Conversely, where the findings in other animals are different from those in man, one would expect such findings to be clearly labelled as to origin—for example, on page 218 Barcroft's findings on the spleen of the dog appear to apply to the human despite the results of Ebert and Stead. Another possible error is to represent as general findings which occur in some animals only—for example, on page 328 the statement is made that stimulation of the vagus nerve gives rise to an abundant flow of pancreatic juice; this occurs in some animals only.

The book is arranged on the basis of systems in nine sections, dealing with the blood, circulation, respiration, digestion, internal secretions, reproduction, urinary excretion and the nervous system. Such an arrangement would be greatly helped by an introductory section on what could be called cellular physiology, in which functional architecture of energetic tissues and the interaction of tissues in general terms could be set out. A possible substitute might be cross references from one section to another—for example, where reflexes affecting blood pressure are dealt with, references to the appropriate part of the section on the nervous system would help the initiate student. Though most books do not endeavour to do this, it is hard to see why the phenomena of carbon monoxide poisoning are dealt with on page 30 and the association-dissociation of oxygen hæmoglobin on page 252, followed by a reconsideration of carbon monoxide intoxication on page 293. It is also difficult to see why hæmorrhage and transfusion are dealt with on page 51, whereas the circulatory system is not dealt with until page 77. Writers of text-books should make special efforts to help the student to see not only the bodily functions in detail in tissues and organs, but also the overall interrelations of the parts and the organism in its environment.

The general standard of writing is high; exposition is brief and explicit. The impression that the information presented provides an adequate analysis of all the phenomena of the living body is not stronger than that given by most books. There must be some frailty of man which compels him when writing a book to forget to use the phrase "this explanation is inadequate" in such and such respects, even though he indicates the necessity of doing so in the preface. The present book, however, contains reference to most of the relevant material on each topic, and has the advantage that there is no dead wood from previous editions, nor are there gaps where it has been cut out. Three notable exceptions to the general high standard of writing are the statement on tonus of the heart on page 86, section 3 on page 207, and the statement on the effect of oxygenation of hæmoglobin on the carriage of carbon dioxide on page 261. These statements are practically meaningless and much more confusing than when divergent views are expressed on different pages as with branch bundle block. These minor criticisms should not cloud the fact that Juan T. Lewis and Olive T. Lewis have done very well indeed a mammoth job of translation.

The next question which arises is whether the book is as up to date as one could expect—it is dated January, 1951. The answer is that it reflects the delay due to translation and the distance of South America from the main sources of physiological literature. Further, in fields in which the authors have not research interests there are some astonishing omissions and wrong statements—for example, methods for determining pH of blood (page 258) do not include the glass electrode, and the newer notions on permeability of cells and concomitant electrical phenomena are not mentioned. Where the authors are actively engaged in research, for example, the circulatory and endocrine systems, there are some very good generalizations and good judgement in what is included and what is excluded. References to literature reflect the standard of the text in its various parts.

As a big book on principles of physiology it is doubtful whether this book will supersede Starling; it is not designed to supersede those big books intended for post-graduate study.

[1] "Human Physiology", by Bernardo A. Houssay, M.D., Juan T. Lewis, M.D., Oscar Orias, M.D., Eduardo Braun Menendez, M.D., Enrique Hug, M.D., Virgilio G. Foglia, M.D., Luis F. Leloir, M.D., translated by Juan T. Lewis, M.D., and Olive T. Lewis, with a foreword by Herbert M. Evans, M.D.; First Edition; 1951. New York: McGraw-Hill Book Company, Incorporated. 10" × 7¼", pp. 1134, with 499 illustrations. Price: $14.00.

Notes on Books, Current Journals and New Appliances.

HÆMATOLOGY.

THE International Society of Hematology was formed "for the purpose of providing a means for the free exchange of scientific information by all workers from any country interested in the broad field of hematology"; the proceedings of its third international congress, held at Cambridge, England, from August 21 to 25, 1950, have just appeared.[1] The first two congresses received "only journalistic reporting". The contents are grouped under the following headings: anæmias and related subjects; immunohæmatology; leuchæmia and related diseases; coagulation, purpura and related subjects; miscellaneous. Contributions to the

[1] "Proceedings of the Third International Congress of the International Society of Hematology", Cambridge, England, August 21-25, 1950; edited by Carl V. Moore, M.D. (editor-in-chief); 1951. New York: Grune and Stratton. 10¼" × 7", pp. 610, with 104 illustrations and many text figures. Price: $10.00 (cloth bound) and $8.00 (paper bound).

congress appear in the proceedings as complete manuscripts, as abstracts, or as titles of presentations, the choice in most instances having been made by the author. The editorial committee, Carl V. Moore, of the United States of America, being the editor-in-chief, consists of five members from the United States, two from Great Britain, and one each from France, Switzerland and Italy. Some of the papers are in French. The book is well produced on good quality paper and plentifully illustrated.

"SEVEN AGAINST EDINBURGH."

"SEVEN AGAINST EDINBURGH" is the true story of the first seven women medical students who attempted to take their degrees at the University of Edinburgh.[1] The methods used by men, both students and teaching staff, to prevent the entry of women into the medical profession make an interesting study of the lengths to which prejudice can go. Calumny, law cases, trickery, lies, every type of insult and even physical violence were unleashed in turn on the unfortunate seven. Devotion to their chosen profession and the indomitability of their leader triumph in the end. The story is weakened by the introduction of a fictional heroine and her love affair with a student doctor.

TRANSACTIONS OF A CONGRESS ON OBSTETRICS AND GYNÆCOLOGY.

THE "Transactions of the International and Fourth American Congress on Obstetrics and Gynecology" has appeared as a supplementary volume to the *American Journal of Obstetrics and Gynecology*, Volume LXIA, June, 1951.[2] The congress was sponsored by the American Committee on Maternal Welfare, Incorporated, and held in New York City from May 15 to 19, 1950. The papers are arranged and published in the order in which they were presented by those who read them. The official language of the congress was English, but "facilities for simultaneous translation were provided in French, German and Spanish. . . .". Dr. George W. Kosmak, the editor, mentions the difficulties met with in the publication of the foreign contributions in English, and asks for the reader's indulgence. The book is large, but pleasant to handle; it has a great many illustrations, all well produced with the exception of one or two of the tables, which are hard to read.

DRUGS AND DRUG PREPARATIONS IN THE UNITED STATES.

ISSUED under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association, the "Epitome of the Pharmacopeia of the United States and National Formulary with Comments" is designed to include such information as will be of use to the practising physician from the two authoritative publications in the United States on drugs and drug preparations. The latest (ninth) edition follows the general plan of previous editions.[3] Descriptions of the official items contain the following information: official titles, synonyms, brief definitions, concise descriptions of the physical properties, actions, usage and dosage. The dosage statements are taken from the Pharmacopeia and the National Formulary and give average adult doses. In some instances further suggestions concerning dosage have been added. Adverse comment is made on preparations believed to be of doubtful or of no therapeutic value. Only the metric system is used, but adequate conversion tables are included.

[1] "Seven Against Edinburgh", by Muriel Masefield; 1951. London: William Heinemann (Medical Books), Limited. 7½" × 5", pp. 332. Price: 13s. 6d.

[2] "Transactions of the International and Fourth American Congress on Obstetrics and Gynecology", edited by George W. Kosmak, M.D., sponsored by the American Committee on Maternal Welfare, Incorporated; 1951. St. Louis: The C. V. Mosby Company. Melbourne: W. Ramsay (Surgical) Proprietary, Limited. 10½" × 7½", pp. 840, with 152 plates and many text figures. Price: £7 1s. 9d.

[3] "Epitome of the Pharmacopeia of the United States and the National Formulary with Comments", issued under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association; Ninth Edition; 1951. Philadelphia: J. B. Lippincott Company. Sydney: Angus and Robertson, Limited. 7½" × 5", pp. 267. Price: 27s.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Leprosy", by Leonard Rogers, K.C.S.I., C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S., I.M.S. (retired), and Ernest Muir, C.M.G., C.I.E., M.D., F.R.C.S. (Edinburgh); Addendum to the Third Edition; 1951. 8½" × 6", pp. 16, with two text figures. Price: 2s. 6d.

Deals with recent advances in the treatment of leprosy by the sulphones.

"Systemic Ophthalmology", edited by Arnold Sorsby; 1951. London: Butterworth and Company (Publishers), Limited. 10" × 7", pp. 748, with 38 plates in colour and 309 illustrations. Price: £5 8s.

The work of 34 authors (English and American) edited by Arnold Sorsby.

"Obstetrical Practice", by Alfred C. Beck, M.D.; Fifth Edition; 1951. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson, Limited. 10½" × 7", pp. 1086, with 22 plates and 947 illustrations. Price: £5 7s. 6d.

Intended for undergraduate students and young practitioners.

"The Significance of Heredity in Ophthalmology: A Tasmanian Survey", by J. Bruce Hamilton, M.D., Ch.M. (Sydney), D.O. (Oxford), D.O.M.S. (London), F.R.A.C.S.; 1951. Melbourne: A. H. Massina and Company Proprietary, Limited. 9½" × 7½", pp. 162, with 111 pedigrees. Price: 50s.

The author has investigated 18 diseases and records 111 pedigrees.

"Clinical Hematology", by Maxwell M. Wintrobe, M.D., Ph.D.; Third Edition; 1951. Philadelphia: Lea and Febiger. Sydney: Angus and Robertson, Limited. 9½" × 6½", pp. 1048, with 220 illustrations and 17 plates, 13 in colour. Price: £6 14s. 6d.

Every aspect of the subject is considered. Technical methods which are in the main suitable for use in the consulting room are described with each chapter.

"Ophthalmology", by Arno E. Town, M.D.; 1951. Philadelphia: Lea and Febiger. Sydney: Angus and Robertson, Limited. 9½" × 6½", pp. 512, with 208 illustrations and four coloured plates. Price: £5 7s. 6d.

An attempt to present a "concise treatise" on modern concepts in ophthalmology; conditions likely to be met by the general physician are dealt with more fully than the less common entities.

"Patterns of Marriage: A Study of Marriage Relationships in the Urban Working Classes", by Eliot Slater, M.A., M.D., F.R.C.P., and Moya Woodside; 1951. London: Cassell and Company, Limited. 8½" × 6", pp. 312. Price: 17s. 6d.

A study of the marriage habits of a representative section of London wage-earners between the ages of twenty-two and forty-seven years.

"Medical Bacteriology: Including Elementary Mycology, Protozoology, and Helminthology", by Lionel Whitby, C.V.O., M.A., M.D. (Cambridge), F.R.C.P. (London), D.P.H., and Martin Hynes, M.D. (Cambridge), M.R.C.P. (London); Fifth Edition; 1951. London: J. and A. Churchill, Limited. 8½" × 5½", pp. 552, with 92 illustrations. Price: 22s. 6d.

The first edition was published in 1928 and the fourth in 1944.

"Recent Advances in Bacteriology", edited by J. H. Dible, M.B., F.R.C.P.; Third Edition, by J. D. MacLennan, M.B.E., M.D., with the assistance of Mary Barber, M.D.; 1951. London: J. and A. Churchill, Limited. 8½" × 5½", pp. 332, with 14 illustrations. Price: 25s.

The second edition was published in 1932; the present volume is stated to be entirely new.

The Medical Journal of Australia

SATURDAY, JANUARY 5, 1952.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: surname of author, initials of author, year, full title of article, name of journal without abbreviation, volume, number of first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

THE NEW YEAR AND THE COMMONWEALTH.

THE New Year is a time when resolutions for the future are made, when people say that they will turn over a new leaf and, starting with a clean page in the "copy book", do better in the future. It is a time for reviewing the past, taking stock of the present and making plans for days to come. Readers of this journal, the medical men and women of Australia, are concerned chiefly with a study of man in health and disease and give time and energy to keeping him well and recovering him of his sickness when he becomes ill. They probably, like many other people, make New Year resolutions about their work and make plans for themselves and their associates. But all this is personal and concerned with individuals; the community, the nation and the whole Commonwealth, reflecting the words and works, the wisdom and follies of the persons comprising them, are at once the concern of everybody and of nobody. The attitudes of nations to one another and of units of one nation to their brother units may well be the subject of our New Year stock-taking. This is an urgent matter today, when the set-up is something like a planned experiment in a chemical laboratory with dangerous compounds facing one another and only a hand or an electric spark is needed to cause an explosion. Most of us shrug our shoulders and ask what we can do about it. Perhaps one person can do nothing, but two or three gathered together may start something that, with others consenting, may prevent the intrusion of a hand or the advent of an electric spark. And most chemical compounds are not unalterable—a change may even be brought about in one or more of the chief compounds on the bench. This matter may be looked at from two points of view; one is immediate and urgent, the other may be described as having a long-range intention. If one compound or group of compounds in our laboratory is to undergo fundamental change or alter its relative position, a long period of time will be needed; many different influences, some obvious and some subtle, will be found to have some effect, and the origins of these influences will be as varied as their nature. With these long-range intentions in mind, it will be salutary to pay close attention to the address by Professor F. Alexander that is published in this issue.

Professor Alexander's choice of subject is a matter for congratulation. Organized medicine in each of the States and in the Federal sphere, in other words the members of the British Medical Association in Australia, should note not only that Professor Alexander chose to speak of Australia's role in the contemporary Commonwealth to a medical gathering, but that he appealed for the deliberate application of medical training and experience in increasing measure to all the broader problems of citizenship. This means that we need to take a broad view and not be afraid to look ahead, that medicine has a contribution to make and that ways of making it must be sought. Professor Alexander refuses to deal in "sentimental vaporizing" on kinship or in "post-prandial platitudes about silken bonds of Empire"—he faces the facts and asks Australians to take up their role in the light of these facts. He insists that Great Britain's changed position in the post-war world is not to be interpreted in a defeatist fashion, but that we shall do well in this country to take full advantage of the courage and inspiration which will continue to flow from the British Isles. All that he writes about the geographical position of the component parts of the British Commonwealth, relative to one another and to the rest of the world, and about its racial composition, is worthy of the closest attention. And this applies also to his suggestion on the geographical side that, on an analogy of the relationship between Canada and the United States, Australia "has peculiar opportunities to assist in interpreting South-East Asia and even the Indian sub-continent to both the United Kingdom and the United States, and *vice versa*".

The aspect of Professor Alexander's address on which we would lay special stress is his contention that associations between the different parts of the British Commonwealth should be strengthened. This is something for which this journal has striven time and again during the last few years. Professor Alexander wishes to see the closest possible association between the Dominions and the Mother Country at every level—the political, the economic, the cultural and the scientific. He also pleads for the strengthening of associations between Australia and the other Dominions. The statement that he is the first Australian professor in any branch of social science ever to have worked in the Union of South Africa will not be surprising to many people. Apparently proposals have been made for organized exchanges between Australia and South Africa, for Professor Alexander declares that Australian university authorities have been regrettably unresponsive to them. The greatest importance should be attached to the fact that a deputation of medical students waited on Professor Alexander in Johannesburg to seek his help in furthering a request that graduands from South African medical schools might spend twelve months training in Australian hospitals. This is the very proposal that has been made several times in this journal. The Chancellor of the University of Melbourne has put forward somewhat similar views in regard to graduands of all university faculties; in this journal discussion has taken place round medical graduands or graduates only. These views may be described shortly by an enumeration

of the headings of remarks made by the Editor of this journal at the inaugural session of the British Commonwealth Medical Conference at London in 1948:

1. That a system of travelling Fellowships be arranged under the ægis of the British Commonwealth Medical Council.

2. That the Travelling Fellows should be young graduates in medicine, who have served for one, or at the most for two, years as resident medical officers in the teaching hospitals of their own countries.

3. That posts equivalent to those of registrars be found for such Fellows in teaching hospitals in another of the countries comprising the British Commonwealth of Nations.

4. That Fellows so placed should take part in the clinical activities of the hospital to which they are allotted and should also be assigned duties in connexion with the teaching or supervision of students.

5. That Fellows should be expected to take an active interest in the affairs of the official medical association or society of their temporary abode.

6. That Fellows should give an undertaking to return to their country of graduation at the end of a period of two years.

7. That a teaching hospital to which a Fellow was attached as a student or in which he served before journeying overseas, should, if the Fellow desires to seek appointment to the staff of his old hospital, undertake that as far as possible he loses no seniority because of his absence. In other words, the period of service in an overseas hospital would be regarded for staff appointment purposes as equivalent to service at the home institution.

8. That the salaries of the posts to which Fellows are sent should be sufficient to maintain them during their two years of residence.

It was held that if some such scheme was brought into being a body of well-informed medical opinion on British Commonwealth matters would before long be widely established in all the constituent parts of the Commonwealth.

It will be clear to readers that in this short discussion some aspects of Professor Alexander's address have not been mentioned; it is hoped, however, that the references to it will lead to its earnest consideration as a whole. There will possibly be points on which everyone cannot agree. That will not matter. What does matter is that the people of this country will realize, as they must in these critical times, that we cannot live unto ourselves in isolation, turning to others when we want something from them or, when it pleases us, for some other reason. In some respects Australia is a favoured nation and we know that parallel with its advantages will be its responsibilities. As Professor Alexander puts it, we have "real opportunities as well as potential dangers". He points out that if we are to adapt ourselves to, as well as protect ourselves against, our post-war environment we need courage, imagination and the best that we can obtain in trained skills and knowledge. This no doubt will receive our common assent. Finally, we have to remember that Professor Alexander may speak the truth in these matters, the Chancellor of the University of Melbourne may publicize his important contentions in his *Gazette*, and we may put forward suggestions in the editorial columns of this journal, but these efforts are nothing but words. Someone has to take heed and do something. "Two or three gathered together" have been mentioned. In the present instance the two or three must have authority. We can imagine that if the vice-chancellors of Australian universities at one of their gatherings decided to adopt and push Professor Alexander's views something might be done. If the Branches of the British Medical Association in this country and their Federal Council chose to discuss something of the kind suggested in these columns, we should at least have a showdown. Further, it would be an innovation if Ministers of the Crown thought it worth while to seek, by the promotion of understanding in non-political circles, by "organized exchanges" between universities, and perhaps by more subtle means, to obtain collaboration and real harmony in the Commonwealth. Whatever happens, we dare not be content to shrug our shoulders and wait to see what happens.

Current Comment.

ACTH AND CORTISONE IN OPHTHALMOLOGY.

WITH increasing experience of the use of ACTH and cortisone, those best qualified to judge seem to be maintaining their caution in any statements on the final role of these drugs in therapy. In many cases these drugs do not provide a definitive answer to therapeutic problems, at least in the way they are used at present, although the results obtained with them give hope for advances in the future. One field in which the immediate tangible results have been particularly encouraging is ophthalmology, and during the last eighteen months or so many reports have appeared on the use of ACTH and cortisone in the treatment of patients suffering from ocular disease. Reference to a few of the more recent papers will indicate what is being done. In one of seven different papers published together[1] and covering various aspects of the subject, H. G. Scheie *et alii* report their experience in the treatment of a wide variety of lesions in 55 eyes (36 patients) with cortisone or ACTH administered systemically, and in 69 eyes with cortisone administered locally in the form of drops. For local application to the eyes they used one millilitre of cortisone suspension (that is, 25 milligrammes of the drug) in five millilitres of isotonic saline solution. In the acute stage of disease one drop was used every hour while the patient was awake, in the subacute stage it was used five times a day, and in the maintenance stage one drop was instilled three times a day. For systemic use cortisone was usually given in one injection of 100 milligrammes daily. It is recommended that ACTH, which by its nature is ineffective when applied locally, should be administered subcutaneously every six hours. The average dose at each injection is 10 milligrammes for children, one milligramme for premature infants and 20 to 50 milligrammes for adults, depending on the response. The toxic manifestations of these two drugs are similar and should be studied by anybody embarking on ACTH or cortisone therapy, but amplification of this subject is not necessary for our present purposes. Scheie and his colleagues report that cortisone and ACTH appear to have identical clinical effects on ocular disease. Given systemically, both offered encouraging results in cases of acute focal chorioiditis and *endophthalmitis phacoanaphylactica*, and to some extent in cases of acute non-granulomatous uveitis and interstitial keratitis. More questionable benefit was obtained in cases of retrolental fibroplasia and optic and retrobulbar neuritis, and in the post-operative stages after keratoplasty. No improvement was observed in cases of chronic granulomatous uveitis, Harada's disease, angiospastic retinopathy, Tay-Sach's disease and thyreotoxic exophthalmos. For lesions of the anterior segment of the eye it is suggested that cortisone instilled topically offers an ideal method of treatment. Encouraging results from local therapy were observed in cases of acute iridocyclitis, *endophthalmitis phacoanaphylactica*, syphilitic interstitial keratitis, sclerosing keratitis, superficial punctate keratitis, marginal keratitis, chronic kerato-conjunctivitis due to bacterial allergy, phlyctenular kerato-conjunctivitis, atypical vernal conjunctivitis and episcleritis. In another paper of the same group H. A. Mosher records the results of his experience in the treatment of 53 patients with cortisone applied locally, either as a collyrium or by subconjunctival injection. The preparation used was "Cortone", a micro-

[1] *Archives of Ophthalmology*, March, 1951.

crystalline suspension of cortisone acetate in saline solution. Mosher found that it was more effective as a collyrium than as a subconjunctival injection, and of more value in diseases of the anterior segment than in those of the posterior segment.

Further encouraging results are reported by John M. McLean *et alii*[1] from the use of similar dosages of ACTH and cortisone. They state that in general the patients were given the amount of hormone necessary to maintain a drop in the eosinophile cell count of over 50% until the disease process was controlled. Complications, both systemic and ocular, were encountered. No systemic complications followed local therapy, but systemic therapy in some cases resulted in "moon facies", change in mood and fluid retention with gain in weight and disturbance of electrolyte pattern. Ocular complications were confined to alterations in intraocular pressure, and one case of what appeared to be local sensitization to cortisone drops. Iridocyclitis was treated parenterally in 13 cases, with prompt and complete arrest of the disease in 10, and locally in 22 cases, with only one failure, one severe secondary glaucoma and four relapses; all four patients with relapses responded to resumption of treatment. Treatment is reported as successful in 14 out of 20 cases of generalized uveitis, and in eight out of 11 cases of chorioiditis. Two out of five patients with sympathetic ophthalmia responded dramatically. Ten patients with *retinitis pigmentosa* were treated systemically and 58 locally; in certain early cases, in which treatment was systemic, improvement occurred in vision, fields and dark adaptation. Forty patients with corneal disease were treated by local applications; five patients with interstitial keratitis responded very well. The result of treatment of five patients with retrolental fibroplasia was not encouraging. Patients with episcleritis responded promptly to local cortisone therapy in four cases. The opinion of McLean and his colleagues from their experience is that local cortisone therapy is fairly efficient for disease of the anterior segment of the eye, and that enough absorption takes place from subconjunctival injection to affect the posterior portion of the globe. The treatment of choice appears to be instillation of cortisone drops hourly while the patient is awake and every two hours during sleep for anterior ocular disease, subconjunctival injection of cortisone in a dosage of 25 milligrammes (one millilitre of cortisone suspension) twice a week for deeper ocular involvement, and intramuscular injection of ACTH in resistant or very severe cases. They stress the fact that, regardless of the form of treatment, its gradual withdrawal is important.

An unsuccessful experience with cortisone which is of some interest is that of P. Thygeson *et alii*[2] in a study of the effect of cortisone on experimentally induced herpetic keratitis in rabbits. Three strains of herpetic virus were used, and the cortisone was administered intramuscularly, by subconjunctival injection and by topical application. The infection failed to respond to cortisone irrespective of the mode of administration. The comment is made that in view of the effectiveness of cortisone in diseases in which hypersensitivity is a prominent factor, it would appear that hypersensitivity is an unimportant factor in herpetic keratitis.

To complete this glance at current experience we may refer briefly to two British reports.[3] The impression of F. S. Lavery and his colleagues is that cortisone is a powerful agent for the control of allergic reactions in the eye. This is based on the results of treatment of 143 patients suffering from ocular disease with local applications of cortisone. They consider that if ocular inflammatory reaction can be kept under control while the basic cause is being dealt with, or until it ceases to operate, permanent damage to the eyes may be avoided. Cortisone does not appear to have any curative effect upon the underlying disease. The method of choice of administration in their view is in the first instance by subconjunctival injection, followed by the instillation of cortisone drops every two hours during the day, and insertion of some of the ointment into the conjunctival sac last thing at night, the subconjunctival injection of cortisone being given every second day. In this series particular benefit was obtained by patients with interstitial keratitis, and in most cases those with iridocyclitis improved rapidly. The treatment of two patients with sympathetic ophthalmia was also successful, cortisone being administered systemically. Striking results were obtained by G. O. Horne in the treatment of five patients with syphilitic ocular disease. Cortisone was used topically in a strength of five milligrammes per millilitre of normal saline, one drop being instilled every three hours day and night. There were two cases of iridocyclitis and three of interstitial keratitis. Treatment resulted in almost complete relief of pain and photophobia and in improvement of vision. Horne states that the drug is not curative, but appears merely to inhibit the inflammatory and exudative reactions typical of this kind of hypersensitivity; relapses may therefore be expected on withdrawal of the hormone so long as the hypersensitive state persists. Treatment must be prolonged and also directed against the underlying disease.

This last comment appears to be important in the whole approach to the use of ACTH and cortisone in ocular diseases. The ophthalmologist is particularly fortunate in the fact that he may obtain results by the local administration of cortisone without the constant threat of systemic complications. Moreover, as with most successful ocular therapy, the results are evident to both doctor and patient, and so are particularly gratifying. It appears necessary to stress that the obtaining of a beneficial result in the eye, no matter how dramatic, with cortisone or ACTH does not lessen the need to search out and deal with basic causes of eye disease when this is possible.

[1] *Transactions of the American Academy of Ophthalmology and Otolaryngology*, May, 1951.
[2] *American Journal of Ophthalmology*, June, 1951.
[3] *British Medical Journal*, June, 1951.

DRUG THERAPY FOR PEPTIC ULCER.

THE basis of therapy for peptic ulcer has ranged over a remarkably wide area. Surgery, drugs, diet, psychotherapy and other measures have all had their advocates, being used in combination or in varying degrees of mutual exclusion. As always in medicine, drug therapy for peptic ulcer seems to exert its own peculiar attraction, and many drugs have been tried and sometimes extolled over the years, mostly to be discarded after a short or long period of trial. Of recent years a number of new drugs have been brought forward, and in most cases an attempt has been made to use them with understanding in line with the present striving after rational therapy. According to J. Edward Berk,[1] the search appears to have turned from antacids to compounds which are antisecretory, or which may, through devious and poorly understood mechanisms, enhance the natural resistance of the gastro-duodenal mucosa. These avenues of approach, Berk states, appear to have resulted in definite gains, and prosecution of further studies along these lines is warranted. It is important to realize that, as Berk points out, the measure of effectiveness of a drug, or of any other therapeutic measures for ulcers, is not alone the relief of symptoms. Placebos can produce remarkable subjective improvement and even objective changes. Controls are essential in any assessment. Adequate examination of patients, careful follow-up studies and wariness of investigations involving animals or healthy humans are all important if false conclusions are not to be reached. In a broad review of current knowledge Berk deals with banthine, hexamethonium, tetraethylammonium, dibutoline, ACTH and cortisone, enterogastrone, urogastrone, sodium carboxymethylcellulose, protein hydrolysates, anion exchange resins and various drug combinations. The results with many of these drugs are as yet inconclusive. Banthine and tetraethylammonium are promising in their effects, despite disadvantages. Dibutoline is not recommended, nor is cortisone. The use of ACTH is contraindicated. Altogether progress seems to have been made, but no specific cure for peptic ulcer is yet to hand.

[1] *The American Journal of the Medical Sciences*, May, 1951.

Abstracts from Medical Literature.

OPHTHALMOLOGY.

Ophthalmic Use of Terramycin.

ARNO E. TOWN (*American Journal of Ophthalmology*, May, 1951) has studied the effect of terramycin on 132 patients with eye disease. He states that the drug was used successfully in 46 out of 48 cases of conjunctivitis due to a staphylococcus, and was completely successful in seven cases due to pneumococcus. It was ineffective in cases of superficial punctate keratitis, corneal ulcer due to *Bacillus proteus* and severe *herpes simplex*. In one case of filamentary keratitis and in one case of dendritic ulcer response was rapid. Terramycin was found to be effective in three out of four cases of infection due to the streptococcus. Morax-Axenfeld and Koch-Weeks conjunctivitis responded rapidly. The authors recommend that 0·5% alkaline solution be used. They consider that the effect of the drug on trachoma warrants study.

Cause of Failure in Retinal Detachment Surgery.

P. ROSS MCDONALD (*Archives of Ophthalmology*, June, 1951) analyses the causes of failure in retinal detachment surgery under three headings, according to the period in which they occur, namely, the pre-operative period, the operative period and the post-operative period. He states that the most important cause of failure referable to the pre-operative period is failure to perform complete examination of the patient and the taking of a poor history. One should not be content if one hole is found, but this should lead one to suspect the presence of another. Three requirements are maximal dilatation of the pupil, perseverance and a good ophthalmoscope. Other features affecting the prognosis are the size of the tear, the extent of the detachment and the condition of the retina: a single large hole is more difficult to close than multiple small tears, the older the detachment the worse the prognosis, and the presence of fixed retinal folds lowers the chances of success. Prognosis is worse in aphakic eyes. Another cause of failure is the presence of intraocular tumour which has been undiagnosed. Failures due to operative procedure are rare. Two causes of failure are insufficient diathermy or too much diathermy. In the post-operative period severe uveitis usually spells failure, and massive chorioidal hæmorrhage will produce failure. In some cases a further detachment occurs in that part of the retina diametrically opposite the original detachment. The author concludes that the two most important factors contributing to failure would appear to be inability to locate the tear and disorganization of the retina and vitreous.

Toxoplasmotic Chorioretinitis Cured with "Atepe".

HENRIK SJÖGREN (*The British Journal of Ophthalmology*, December, 1950) reports a case of toxoplasmosis cured with "Atepe" ("Atebrin" *plus* "Plasmochin"). The patient, aged twenty-three years, had active chorioiditis in the only healthy eye (the right); this condition had failed to respond to usual treatment, but subsided after fifteen tablets of "Atepe" were given over a period of five days. The diagnosis was established by the presence of intracerebral calcification, macula coloboma in the left eye and a positive result from the toxoplasmotic neutralization test.

Vascularization of the Cornea.

J. H. DOGGART (*The British Journal of Ophthalmology*, March, 1951) discusses vascularization of the cornea. He states that new vessels may invade the cornea in phlyctenular disease, interstitial keratitis, sclerosing keratitis, diskiform keratitis, trachoma, rosacea, various ulcers, mechanical irritation, chemical damage, intraocular disorganization, certain forms of nutritional disturbance and some of the dystrophies. Superficial vessels are the rule in some conditions and deep vessels in others. There is also a tendency for certain diseases to be located in one region of the cornea more than in another. In assessment of the significance of corneal vascularization other clinical evidence, such as history, and signs of disease elsewhere, should be taken into account; for example, extensive corneal rosacea is usually accompanied by signs on the face, although cases occur without evidence on the face. The main significance of vascularization is reparative, although progressive vascularization is unfavourable. The means has yet to be found of preventing the development of vessels which perform no useful function, or which persist long after their work of repair has come to an end.

Acute Eye Lesions Treated by Lamellar Corneal Grafting.

LOUIS PAUFIQUE AND SEYMOUR PHILPS (*The British Journal of Ophthalmology*, December, 1950) report two cases of acute eye disease affecting the cornea in which cure was effected by lamellar grafting. In the first case an ulcer involving more than a third of the cornea had resisted all treatment; ten days after operation the eye was quiet. In the second case an ulcer 5·1 millimetres in diameter, the result of a lime burn, had failed to respond to other treatment; the patient was able to return to work three weeks after grafting.

Retinal Microaneurysms in the Non-Diabetic Subject.

NORMAN ASHTON (*The British Journal of Ophthalmology*, April, 1951) has examined 336 eyes from non-diabetic subjects. He states that in 135 cases the retinæ were removed and stained by the PAS technique. The remainder were examined by the injection technique. It was found that the injection technique was superior to the staining technique in the search for and location of microaneurysms. Of the 336 eyes, 162 were removed at operation and 174 were obtained *post mortem*. The kidney was examined histologically in every post-mortem case. Of the eyes removed at operation, one-third contained microaneurysms, these being mostly associated with thrombotic glaucoma and chronic uveitis; they were also found within a retinoblastoma. Of the eyes removed *post mortem*, about one-third contained microaneurysms. In about half of these cases the lesions were found to be confined to the extreme periphery; they were few in number and often indistinguishable from the diabetic type of aneurysms. The author states that apart from vascular sclerosis the occasional microaneurysm is the commonest pathological lesion in the retina.

The Therapeutic Lamellar Corneal Graft.

L. PAUFIQUE (*Transactions of the Ophthalmological Society of the United Kingdom*, 1949) states that the lamellar corneal graft has three indications: optical, in the case of a superficial lesion occupying only some of the corneal layers; preparatory, in the case of serious lesions of the cornea with dense highly vascularized leucomata, with a view to preparing the cornea for a perforating graft; therapeutic, in the treatment of progressive corneal disease. The trophic role of keratoplasty is one of the most important facts observed after grafting. The author uses the lamellar graft for the treatment of all forms of chronic or recurrent keratitis when all the usual forms of treatment have failed or when the centre of the cornea is in danger, or when perforation of the cornea is to be feared. He states that therapeutic lamellar grafting may be performed either in the periphery or in the centre of a diseased cornea. The donor eye to be used is kept for five or six days in a refrigerator at 4° C. Best results were obtained in the case of keratitis with neurotrophic virus, especially *herpes simplex* or *herpes zoster*, and of deep syphilitic or tuberculous keratitis. In three cases it was possible to stop perforation, and in another an abscess with hypopyon which had resisted all forms of treatment responded in a few days. The operation is safe, the lesions show response in fifteen to thirty days, pain stops, and inflammatory signs and ulceration decrease. The author considers that such grafting amounts to a preventive treatment of corneal blindness.

Pearl Cysts of the Iris.

OLGA SITCHEVSKA AND BRITTAIN F. PAYNE (*American Journal of Ophthalmology*, June, 1951) review the ætiology, diagnosis, clinical features and treatment of pearl cysts of the iris and report a case. They state that pearl cysts are distinguished by their opacity and pearly lustre. They are firm in consistency, round or oval in shape, and usually lodged at the anterior surface of the iris. Trauma is the only ætiological factor. They frequently develop because of penetration of cilia into the anterior chamber. Diagnosis is based on a history of injury, and they are to be differentiated from malignant and benign cysts of the iris, congenital cysts, gummata, tubercles of the iris and implantation cysts. Pearl or epidermoid cysts contain no cavity filled with fluid. They are opaque, round or oval in shape. Frequently they are of a pearly lustre, bluish or yellowish in tint. Microscopically the walls of the cyst consist

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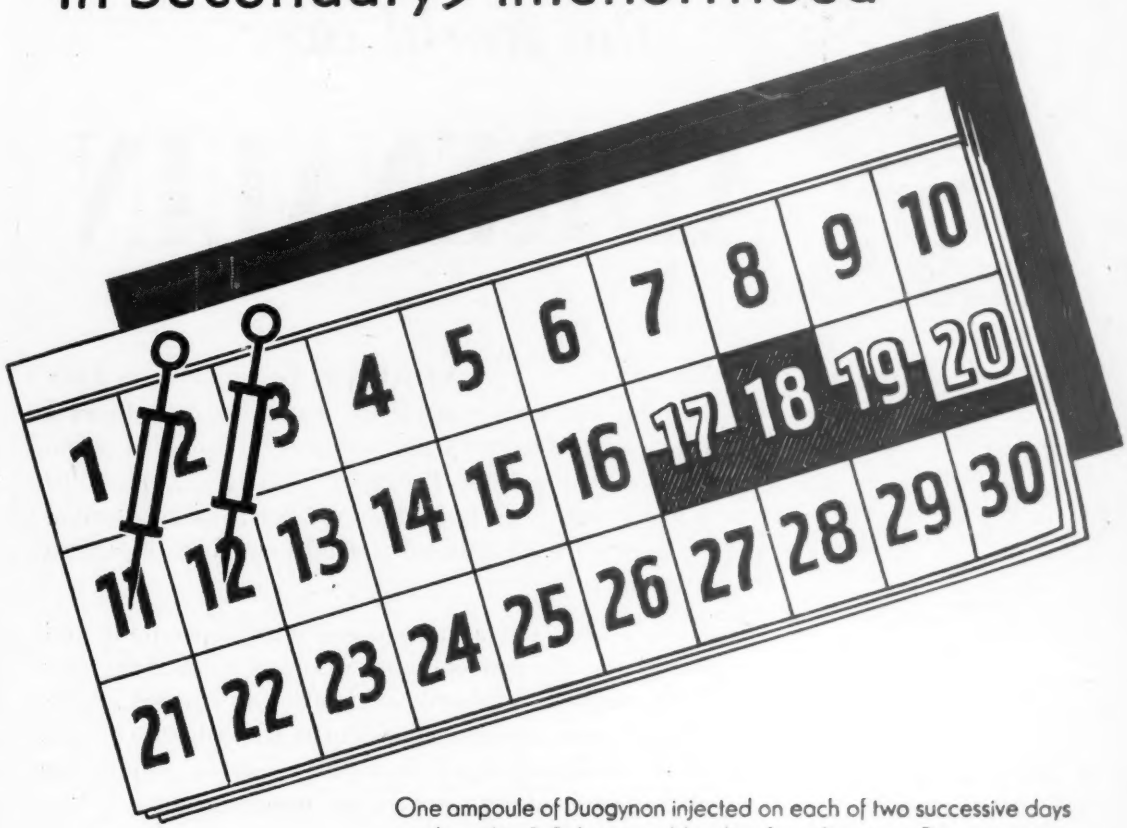

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of concentric overlapping layers of epithelium arranged like an onion bulb. Some of the epithelial cells become keratinized. This stratified cover gives the pearl cysts their resistance and firmness. One or more cilia are often seen with the slit lamp either in the cyst or in the iris. Three periods are usually observed in their development. The first, quiet stage may last a long time, if the cyst is slow in progressing and is well tolerated by the eye. The second stage is characterized by pain, ciliary injection, photophobia and lachrymation; it is the period of iridocyclitis. The third period is the one of increased intraocular pressure; the cyst is large, sometimes filling the whole anterior chamber, and the blocking of the angle of the anterior chamber by the cyst leads to intractable secondary glaucoma, enucleation being the fate of the eye. The treatment of choice is that the cyst should be excised *in toto* in an iridectomy through a large corneal section. The operative interference should be undertaken early, when the cyst is small and is still well tolerated by the eye.

Ocular Complications Encountered in Intracranial Arteriography.

HAROLD F. FALLS *et alii* (*Archives of Ophthalmology*, June, 1951) report on the frequency and type of ocular complications encountered in patients undergoing intracranial angiography. Altogether complications occurred in 86% of cases. Petechial hæmorrhages were observed in and around the homolateral eye; conjunctival petechiæ were observed in 81% of cases, and retinal hæmorrhages occurred in 25%. The majority of retinal hæmorrhages were round and were confined chiefly to the posterior pole. Optic neuritis with eventual loss of vision was observed in one case and temporary loss of vision in two. The homolateral pupil was temporarily dilated in five cases. The cause of the complications is not known, but the authors express the belief that they result from vascular change secondary to allergic, toxic or physical phenomena.

OTO-RHINO-LARYNGOLOGY.

Antro-Choanal Polypus.

W. E. HECK, O. V. HALLBERG AND H. W. WILLIAMS (*Archives of Otolaryngology*, October, 1950) state that the so-called antro-choanal polypus, rising from the antral mucosa, has appeared to be clinically different in character from the usual nasal polypus, although similar in appearance. Many of the antro-choanal polypi appear to arise from a small area of the mucosa on the postero-superior wall of the antrum. Often the choanal polypus is the only example of polypoid change to be found. Nasal polyposis, in general, appears to be associated with allergy, while in cases of antro-choanal polypus no findings suggestive of allergy may be found. Of 1720 patients who were given a diagnosis of nasal polypus at the Mayo Clinic in a ten-year period, 56 definitely appeared to have antro-choanal polypi, and in eight other cases this was the probable condition, making 64 in all. Only seven of the patients were less than thirteen years old. There were two males to every one female in the series. In 15 of the 64 cases one or more positive indications were found that allergy might be present. The antro-choanal polypi recurred in 12 of 59 cases in which the polypectomy was performed. Tissue removed at operation was studied in 54 of the cases and was compared with that obtained in 54 cases of ordinary nasal polypi. The dissimilarities between the two groups of polypi were few. The nasal polypus was seen frequently to contain mucous glands, whereas the antro-choanal polypus rarely did so. The nasal polypi more frequently contained eosinophile cells, and to a much greater degree than did the antro-choanal polypi. The observations suggest that, while the ordinary nasal polypus is of allergic origin, the stimulus for the growth of the antro-choanal polypus is of a different nature.

A Concept of Allergy as Autonomic Dysfunction.

HENRY L. WILLIAMS (*Annals of Otology, Rhinology and Laryngology*, March, 1951) states that allergy may be defined as an inherited predisposition to a localized type of autonomic dysfunction, mediated by cholinergic fibres of the autonomic system. In these localized areas a stereotyped reaction of the peripheral vascular bed occurs, consisting of arteriolar spasm with atonic dilatation of the capillaries and venules. This picture, produced only by a maximal stimulus in a normal individual, may occur in certain tissues and organs of an allergic individual in response to a normally minor stimulus, or the response may take place as the result of environmental exposure to stimuli to which a normal individual would not react. These reactions result in a greater or less degree of cellular damage and the release of histamine and other toxic substances. Clinical allergy may be produced by reaction of the peripheral vascular bed, resulting in the production of anoxic capillary loops, which may lead to œdema. An antigen-antibody reaction may be associated with the vascular reaction and may contribute to cellular damage. In physical allergy no antigen-antibody mechanism is present. Its normal physiological prototype may be considered the alarm reaction of Selye. In bacterial or tissue allergy the fundamental autonomic defence mechanism is retained, but this is supplemented by the development of protective antibodies. This hypothesis throws emphasis on the medical and psychosomatic aspect of the treatment of allergy, as opposed to the strictly immunological aspect. The vasodilators have been known to produce favourable effects in physical allergy, and physical agents such as heat and the hot mustard bath preceded the antihistaminics in the treatment of vasomotor rhinitis and the vasomotor stage of the common cold. Papaverine, histamine and nicotinic acid have been found to be effective vasodilators and have been used in the allergies with success. Use of tobacco in the allergies appears to be contraindicated, since smoking promotes vasospasm. A diet of low salt content and restriction of fluids have been found helpful in the allergies. In some individuals allergic reactions are produced by a relative depletion of the adrenal cortical hormones. Ascorbic acid, the precursor of corticoid hormone, has been reported as effective in relieving the symptoms of allergy in some individuals. Ascorbic acid also has a direct effect on capillary permeability. Vitamin *P* has been found necessary to complement the action of ascorbic acid. Ascorbic acid and rutin in dosage of 250 milligrammes three times daily have been found effective in preventing the return of allergic symptoms. The addition of certain fats to the diet of infants with eczema has been found to be helpful. When clinically significant positive skin reactions are obtained, attempts at hyposensitization are frequently beneficial. The theory of allergy based on the autonomic vascular reactions is felt to furnish a better working hypothesis from the standpoint of clinical diagnosis and treatment than one based on the antigen-antibody concept alone. Treatment by specific methods leaves much to be desired. Supplementary treatment by non-specific methods will often produce a favourable clinical result unobtainable by specific methods alone.

Trotter's Syndrome and Associated Lesions.

N. ASHERSON (*The Journal of Laryngology and Otology*, May, 1951) states that neurological symptoms and signs may be the predominant manifestations of a tumour arising in the lateral wall of the naso-pharynx. A characteristic syndrome was described by Trotter in 1911; this includes deafness and pain, which may be severe, and anæsthesia in the distribution of the third division of the fifth nerve. The deafness is of middle ear type and may be accompanied by secretory catarrh of the tympanum. Asymmetry of the palate, trismus and glandular metastases follow. This condition represents anatomically a lesion originating in the region of the sinus of Morgagni, deep to the lateral wall of the naso-pharynx. The lesion is usually an endothelioma and spreads deeply and laterally, in distinction to other types of naso-pharyngeal growths, which fungate into the lumen of the pharynx, blocking it and producing ulceration and hæmorrhage. The fungating types of growth do not give rise to Trotter's syndrome. Another type of lesion originating in the pterygo-palatine fossa gives rise to pain, first noted in the second division of the trigeminal nerve, followed by deafness and later by involvement of the third division of the fifth nerve, as well as of the optic nerve, with resultant blindness. The initial symptom may be persistent neuralgia over the lower jaw (and later the upper jaw also), unilateral deafness, or the appearance of enlarged lymph nodes in the upper cervical region. The Jacod syndrome arises from an intracranial lesion involving in the middle cranial fossa the nerves traversing the *foramen rotundum*, the *foramen ovale* and the sphenoidal fissure. Malignant disease of the upper jaw, though it may destroy the posterior wall of the antrum, does not infiltrate into the pterygo-palatine fossa or into the sinus of Morgagni, so that in the large series of recorded cases of this type of lesion these syndromes are not mentioned.

Special Articles for the Clinician.

(CONTRIBUTED BY REQUEST.)

I.

THE THERAPEUTIC USES OF CORTISONE AND ACTH.

CORTISONE may be used as partial substitution therapy in adrenal cortical insufficiency. ACTH may similarly be used in pituitary insufficiency as a stimulus to the adrenal cortex. The use of these substances in such cases follows logically from a well understood concept of applied physiology and serves to restore the internal environment of the patient to a more normal condition. An entirely different and quite empirical line of reasoning is involved in the use of these two substances in such conditions as rheumatoid arthritis, rheumatic fever, allergic states and the many other conditions which have been the subject of recent experimental work. In these diseases cortisone and ACTH exercise a suppressive action on certain pathological processes, provided the doses used are sufficiently high (of the order of five times the physiological dose), but appear to exert no influence on the course of the underlying disease. The effect on the metabolic processes of the patient is what might be expected from this large dosage of such hormones, and mimics the change seen in the metabolism of patients suffering from Cushing's syndrome. At this stage of our knowledge it is wrong to speak of the treatment of patients with cortisone and ACTH, as much more experimental work is required before the final evaluation of these hormones in clinical medicine can be made. In spite of this limitation in our knowledge, the effects are so dramatic that patients willingly cooperate in the experimental use of these substances so that, within the limits of cost and scarcity, a great amount of information is being accumulated concerning the action on a wide variety of conditions. Before describing in detail the methods of administration currently in use and the conditions for which they appear to be most helpful, I propose to review briefly some of the more theoretical aspects of our knowledge of these hormones.

The Nature of Cortisone.

The name cortisone is now applied to the acetate of 17-hydroxy-11-dehydrocorticosterone (compound E of Kendall). It is produced by partial synthesis from desoxycholic acid derived from ox bile. Other possible sources are vegetable (such as strophanthus seeds), but this source has not yet been exploited commercially. It is supplied as an aqueous suspension of fine crystals under the trade name of "Cortone" by the chemical firm of Merck and Company, whose research chemists headed by L. H. Sarett first succeeded in its synthesis. Tablets for oral administration have also been prepared. Compound E was isolated by E. C. Kendall at the Mayo Clinic in 1935 from the adrenal cortex. It is one of a series of steroids found in the adrenal cortex having a similar structural formula, but having, in common with compound F, oxygen atoms at the 11 and 17 positions and known therefore as 11,17-oxysteroids. These two compounds have a carbohydrate regulating effect with minimal electrolyte controlling effects, in contrast to compounds A and B and some of the more easily synthesized substances such as desoxycorticosterone (DOCA). Compound F has not yet been synthesized, although it appears to have similar effects in the body to cortisone. Only the 11,17-oxysteroids possess the "anti-rheumatic" properties of cortisone.

ACTH.

Anterior pituitary adreno-cortico-trophic hormone is prepared from the anterior pituitary glands of animals. In America the source is hog's pituitary gland, but the glands of sheep and whales provide alternative sources. The active fraction is a polypeptide. Contamination with posterior pituitary extract may occur in commercial preparations, giving rise to side effects such as abdominal cramps. The hormone is ineffective by mouth, and there is some evidence that some inactivation occurs when it is given intramuscularly. When it is given intravenously, the effective dose may be reduced to between one-tenth and one-twentieth of the intramuscular dose, especially if the duration of administration is extended to twelve to twenty hours by slow continuous intravenous drip. When it is given intramuscularly, the daily dose must be divided into six-hourly or eight-hourly fractions to secure adequate activation of the adrenal cortex. It is assumed from the similarity of clinical effects to that of cortisone administration that either compound E or compound F (or a combination of the two) is produced in increased quantities under its influence. While in most cases the clinical effects are similar, disease or exhaustion of the adrenal cortex will render ACTH ineffective.

Metabolic Effects of Cortisone.

A variable but usually slight influence on the electrolyte regulation may occur. This trend is in the direction of sodium retention and potassium loss. The effect on carbohydrate metabolism is towards a rise of blood sugar with diminished response to insulin. There is a reduction of fixed lymphoid tissues and a fall in circulating lymphocytes and eosinophile cells. Protein metabolism is affected particularly when high dosage is given, a negative nitrogen balance occurring unless offset by a larger food intake. Excretion both of creatinine and of uric acid is increased. A variable change occurs in the excretion of 17-ketosteroids. In the large doses used in rheumatoid arthritis there is an initial fall in urinary 17-ketosteroid excretion, followed by a rise which does not quite reach the pretreatment level unless the daily dose of cortisone is very large. Oxysteroids are excreted in increased quantities during cortisone administration.

In addition to these effects of cortisone on metabolism certain other changes occur on prolonged high dosage. These are the so-called "side effects", which are in reality aggravated physiological effects. Hirsuties, fullness of the face ("moon face"), facial acne, restlessness and insomnia, the deposition of fat in the upper thoracic region posteriorly ("buffalo hump") and striæ, all of which are seen in Cushing's syndrome, indicate that doses far in excess of the physiological level have been given. Hypopotassæmia is indicated clinically by weakness and may be demonstrated by electrocardiographic changes (lowering of *T* waves and depression of the *S-T* segment). Retention of sodium and water may be demonstrated by œdema and an increase of body weight. Impaired carbohydrate metabolism may be revealed by a rise of blood sugar and glycosuria.

Metabolic Effects of ACTH.

As would be expected, there are few differences between the metabolic effects of cortisone and ACTH. In the main these differences are related to the wide range of steroids produced by the adrenal cortex under the stimulating influence of ACTH. There is a greater change in electrolyte metabolism, the salt and water retaining effects being much greater and the tendency to hypopotassæmia rather greater. The excretion of 17-ketosteroids is increased. The increase in blood volume may be sufficiently marked to bring about cardiac failure in patients with heart disease as in rheumatic fever. Use is made of the effects of increased corticosteroid production on the number of circulating eosinophile cells to test the responsiveness of the adrenal cortex to stimulation. A test dose of 25 milligrammes of ACTH should reduce to half the eosinophile count within four hours if the adrenal cortex is healthy.

Theories Regarding the Action of Cortisone and ACTH in Disease.

While a great deal of information concerning the metabolic effects of cortisone and ACTH has been accumulated and the clinical effects in a great variety of disease processes have been studied intensively, little or nothing is known of the mechanism by which these effects are produced. This is scarcely surprising, as our knowledge of most of these diseases is extremely limited. Indeed it is possible that the study of the effects of these two hormones may pave the way to a better understanding of the true nature of rheumatoid arthritis, *polyarteritis nodosa* and such baffling conditions. There are two concepts of ætiology of disease which are founded upon careful and prolonged experimental and clinical observation and therefore deserve consideration as stepping stones to a wider understanding of the problems involved.

The General Adaptation Syndrome.

Hans Selye, in an attempt to explain the reactions noted in animals exposed to a wide variety of stresses, has postulated that, in addition to the specific effects of such widely differing noxious but non-lethal stimuli as heat, cold, nervous strain, infections and muscular fatigue, there is a general reaction within the body which follows a definite pattern involving adrenocortical enlargement, thymico-lymphatic involution and certain changes in the blood count.

This first response to the appropriate stimulus is called by him the "alarm reaction", and he has found that it is followed by a "stage of resistance" in which the adaptation to such noxious stimuli is optimal and later followed by a decline in the body's capacity to react appropriately—the "stage of exhaustion". He names this sequence the "general adaptation syndrome". It has been shown that the pituitary gland (*pars anterior*) as well as the adrenal cortex is involved, and that by a judicious manipulation of the internal environment of the animal by the use of excess doses of mineralocorticoids (for example, DOCA) and increased sodium intake certain diseases resembling those found in humans, such as rheumatic fever and rheumatoid arthritis, *polyarteritis nodosa*, hyaline necrosis of arterioles and nephrosclerosis, could be produced when noxious stimuli were applied. The addition of very small amounts of "growth hormone" enhanced these effects. The prior administration of glucocorticoids (cortisone) or of ACTH protected the animal from damage by this combined treatment. Animal experiments may not always be applicable to human problems. Selye's hypothesis is that sufferers from diseases which are favourably affected by cortisone and ACTH react differently to stress. Some defect or aberration of the pattern of cortical hormone occurs which allows visceral lesions to develop under conditions which would leave the tissues of normal individuals unchanged. Cortisone or ACTH restores to some degree the proper balance.

The Potential Reversibility of Rheumatoid Arthritis.

Hench postulated an "antirheumatic substance X" which in pregnancy and jaundice was capable of inducing remissions in patients suffering from rheumatoid arthritis. He was therefore prepared for the rapid remissions which occurred in his early experiments with cortisone and ACTH.

Indications for the Use of Cortisone and ACTH.

The use of cortisone and ACTH is largely experimental and all dosage schedules are tentative. The symptoms and signs of many diseases may be favourably influenced by the use of these hormones, but present evidence suggests that the course of the underlying diseases is not affected directly. Rather the tissues are shielded from the noxious influences of the disease process so that damage, which may in some cases be fatal, may be averted. If, concurrently with cortisone or ACTH administration, other action can be taken which is effective in dealing with the actual disease, the use of these hormones contributes to the ultimate recovery of the patient.

While cortisone and ACTH remain scarce and dear it will be necessary for practitioners and suppliers to keep the objectives of treatment clearly in mind.

The following principles may be enunciated:

1. Cortisone and ACTH are not in themselves curative.
2. Their use may be life-saving in some emergencies.
3. Patients for treatment should be selected on a basis of the especial value of cortisone or ACTH, not merely on account of a known favourable influence.
4. Where other measures are equally effective, the hormones should not be used.
5. Any list of indications will require constant revision as fresh experimental work is published.

Diseases in which Cortisone and ACTH are Useful.

The diseases in which cortisone and ACTH are useful can be set out under four headings.

A. Acute conditions and emergencies: (*a*) rheumatic fever with carditis; (*b*) burns and shock; (*c*) inflammatory eye conditions; (*d*) Addison's disease in crisis (cortisone only); (*e*) *status asthmaticus*; (*f*) pemphigus; (*g*) serum sickness; (*h*) drug sensitization; (*i*) exfoliative dermatitis; (*j*) acquired hæmolytic anæmia.

B. More chronic conditions in which a fatal outcome may be deferred or avoided: (*a*) acute disseminated *lupus erythematosus*; (*b*) *polyarteritis nodosa*; (*c*) dermatomyositis; (*d*) the nephrotic stage of nephritis; (*e*) acute leuchæmia.

C. Chronic conditions in which favourable effects may be produced: (*a*) rheumatoid arthritis; (*b*) Still's disease; (*c*) ankylosing spondylitis; (*e*) psoriatic arthritis; (*f*) gout; (*g*) panhypopituitarism; (*h*) Addison's disease; maintenance treatment (cortisone only).

D. Conditions in which the inhibiting effect on bone and fibrous tissue formation may be useful: (*a*) certain arthroplasties.

Preliminary Observations and Tests.

Tests may be divided into two types: (*a*) Those necessary to establish the diagnosis and to ensure that the condition is one in which one of the hormones may be given with benefit. (*b*) Those necessary to ensure that no absolute or relative contraindication to the use of either hormone is present. In addition an electrocardiographic tracing may be taken for comparison with later tracings should hypopotassæmia be suspected.

Comment on the first type of test seems unnecessary except perhaps to draw attention to the need for accuracy in diagnosis of rheumatoid arthritis, not only regarding the differentiation from other types of arthritis, but also regarding the degree of activity of the disease.

Information must be obtained on the following: (*a*) pulmonary tuberculosis, (*b*) peptic ulcer, (*c*) impaired carbohydrate metabolism. It is usually sufficient to make an X-ray examination of the lungs, to inquire carefully into the history concerning ulcer symptoms and to test the urine for sugar after a large carbohydrate meal. Laboratory confirmation of any suspicious findings should be obtained.

In cardiac failure disaster sometimes follows the administration of ACTH if sodium retention is associated with an increase of blood volume. Recent wounds show delayed healing when cortisone or ACTH is given. This is not necessarily a contraindication, but the surgeon should be aware of the implications.

Dosage Schedules.

The dosage schedules are set out in Table I.

Cortisone. The normal dosage for cortisone in most cases is 100 milligrammes given intramuscularly three times the first day (eight-hourly), twice the second day (twelve-hourly), and thereafter 100 milligrammes once a day for a variable period, depending on the response and the nature of the disease. This dosage produces inhibition of the normal pituitary-adrenal secretory mechanism, which is reversible unless the dose is maintained for long periods. Abrupt cessation may therefore be followed by a phase in which the patient has neither natural nor artificial source of hormone. Reduction of dosage may be accomplished in a stepwise manner, decreasing by 10 to 20 milligrammes per day. When the disease requires only a short period of treatment this gradual reduction is not so necessary. Children usually require full adult dosage. It is recommended that the minimum dose which will produce a therapeutic response be given each day. Careful watch should be kept for the development of signs which indicate intolerance (*vide infra*). In the interests of safety it is advised that doses for any course should not exceed 3·0 to 4·0 grammes, and that the duration of a course should not exceed six weeks. A rest period should be allowed of three to four weeks before a further course is given.

Oral cortisone therapy may be given, the doses being equal to those by injection, but the dose must be divided and given every four or six hours.

In ophthalmic cases local administration is effective, either by eye drops or by the subconjunctival injection of 0·2 to 0·4 millilitre under topical local anæsthesia. This may be repeated every two to three days, the depot of cortisone being under observation. Systemic administration of cortisone may be carried out concurrently, but is often unnecessary.

In Addison's disease the dose is usually not more than 25 milligrammes daily, except in a crisis, when 100 to 200 milligramme doses per day may be required. As cortisone is a gluco-corticoid, supplementary treatment with DOCA will be necessary to control electrolyte balance.

In rheumatic fever it is usually necessary to maintain full doses for six weeks as relapse may follow earlier withdrawal. Watch should be kept for signs of increased jugular venous pressure and other manifestations of cardiac failure. The actual dose and duration of treatment must be correlated with the clinical picture. It may be possible in some cases to maintain the suppression of activity on smaller doses.

In rheumatoid arthritis the dosage is dependent on the severity of the disease. Partial suppression on doses of 25 to 50 milligrammes daily, maintained for many weeks, may be preferable to full suppression on 100 milligramme doses. Under cover of cortisone, manipulation of joints and similar active measures may be carried out without risk of a flare-up in the joint treated. No change may be expected in "burnt-out" cases, and the lesions constituting the "ashes" of the disease, such as absorption of bone about the joints and deformities resulting therefrom, are not affected. While

TABLE I.

Mode of Administration of Cortisone and ACTH in Certain Diseases.

Disease.	Hormone.	Dosage.			Remarks.
		First Day.	Second Day.	Maintenance.	
Rheumatic fever ..	Cortisone, intramuscular injection.	100 milligrammes eight-hourly.	100 milligrammes twelve-hourly.	100 milligrammes daily five to six weeks.	Dose depends more on severity of disease than on age. In young children may be 75 milligrammes daily.
	ACTH, intramuscular injection.	25 milligrammes four-hourly.	25 milligrammes six-hourly.	10 to 20 milligrammes six-hourly.	Watch for signs of cardiac failure from hydræmia and salt retention.
Burns and shock ..	Cortisone, intramuscular injection.	100 milligrammes eight-hourly.	100 milligrammes twelve-hourly.	100 milligrammes daily.	Duration of treatment determined by degree of shock and extent of burns. Often total of 1·0 gramme may suffice. Full fluid replacement by intravenous therapy.
	ACTH, intramuscular injection. ACTH, intravenous injection.	25 milligrammes four-hourly. 25 milligrammes added to intravenous fluid in 24 hours.	25 milligrammes six-hourly. 5 to 10 milligrammes in intravenous fluid daily.	10 to 20 milligrammes six-hourly.	Experimental.
Status asthmaticus, drug sensitization, serum sickness and exfoliative dermatitis.		Dosage of ACTH or cortisone as for burns and shock.			Short course only, for example 1·0 gramme of cortisone. Remove exciting cause if possible. (BAL may be used for gold *et cetera* dermatitis.)
Eye conditions ..	Systemic cortisone and ACTH.	As for burns and shock.			1 : 4 dilution of standard solution 25 milligrammes per millilitre with saline as eye drops instilled at 30 to 60 minutes intervals during waking hours. Other treatment, for example atropine drops for iritis, used concurrently.
	Cortisone, local (subconjunctival injection.	0·2 to 0·4 millilitre.		Repeat as depot disappears (alternate days).	
Rheumatoid arthritis, ankylosing spondylitis, disseminated *lupus erythematosus*, *polyarteritis nodosa*, *et cetera*.	Cortisone.	As for rheumatic fever.			Patient must be in active phase of disease. Other treatment, for example gold, may be given concurrently. Actual daily dosage depends on severity of disease. Reduce daily dose to minimum which will maintain remission. Maximum dose in general for one course not to exceed 4·0 grammes of cortisone, or corresponding dose of ACTH. Duration of first course, average four weeks. If partial remission can be maintained with 25 to 50 milligrammes daily, this may be continued for longer period. Allow interval between first and second course of three to four weeks. Watch for signs of excessive dosage.
	ACTH, intramuscular injection.	As for rheumatic fever.			
	ACTH, intravenous injection.	As for burns and shock.			

for experimental purposes Hench and others have, during the use of cortisone, refrained from any adjuvant therapy, such as gold injections, there is no reason why such treatment should not be given concurrently with the cortisone.

While cortisone and ACTH first came into prominence following their use by Hench and his co-workers in this disease, their value is still doubtful. Relapse usually follows the cessation of treatment. Many patients are disappointed with the late results of treatment, which affords so much relief for a time, but rarely confers lasting benefit unless by combination with other measures. There is no doubt that high cost and scarcity play a big part in denying patients suffering from rheumatoid arthritis prolonged treatment, but the effects of prolonged administration on the endocrine system are not yet fully understood and most clinicians have some reluctance about lengthy treatment. In the very severe cases, in which joint damage seems to progress relentlessly, suppression of the process requires doses which are in excess of the usual, and undesirable side effects may occur without adequate joint protection.

Gout and ankylosing spondylitis are examples of diseases in which other forms of therapy (colchicine and X-radiation respectively) are in general so effective that cortisone, while beneficial, is not recommended.

Status asthmaticus, drug sensitization, serum sickness and exfoliative dermatitis usually require quite short courses, not exceeding one gramme. Further treatment may be given if symptoms recur on cessation of therapy.

ACTH. Dosage of ACTH when given by intramuscular injection is usually about half that of cortisone. As rapid inactivation of any dose occurs the daily dose should be given not less frequently than every eight hours, preferably more often. Mandel *et alii* have reported results comparable with those obtained by the daily administration of 25 milligrammes every six hours, when continuous intravenous drip infusion containing 5 to 10 milligrammes was administered over a twenty-hour period each day. In some cases the doses were even smaller.

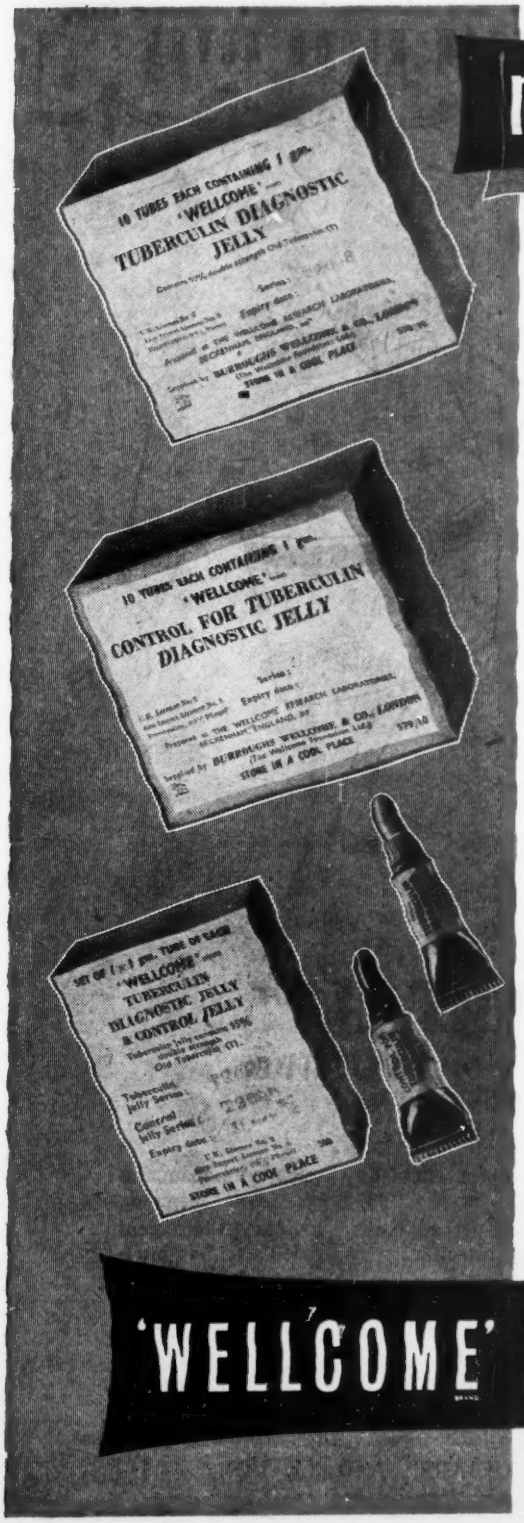
ACTH is not effective when the adrenal cortex is unresponsive, as in Addison's disease.

Better results have been obtained from ACTH than from cortisone in acquired hæmolytic anæmia. No strict dosage schedule can be laid down, the average daily dose being between 50 and 150 milligrammes and the duration of treatment depending on the response as shown by blood count, reticulocyte count and serum bilirubin estimation.

Effects of Cortisone and ACTH Administration.

The effects of cortisone and ACTH administration may be divided into: (*a*) the changes in the disease processes, (*b*) miscellaneous effects of continued and high dosage.

Table II sets out the main effects of cortisone and ACTH other than the effects on the actual disease processes, together with the appropriate action to be taken by the clinician. It is important for the clinician to understand the mode of production of these effects and to maintain a comprehensive supervision of the patient. At the present time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it is considered preferable for the patient to be in hospital and for laboratory facilities to be available at least during the initial stages of treatment. Possibly when experience in the use of these substances becomes wider, out-patient or domiciliary treatment may be regarded as sufficiently safe.

TABLE II.

Miscellaneous Effects of Cortisone and ACTH Therapy.

Symptom.	Cause.	Remarks.
Hirsuties[1] ..	Excess dosage.	Reduce dose or suspend treatment for a few days.
"Moon face" ..		
Acne		
"Buffalo hump" ..		
Striæ		
Amenorrhœa ..	Inhibition of pituitary activity or androgenic effect.	Occasionally seen; probably not serious.
Euphoria ..	Partly hormonal; partly due to relief of pain *et cetera*.	Normal effect; not undesirable unless excessive.
Insomnia ..	Cortical effect (compare changes in electrocardiogram).	If not readily controlled by sedatives, reduce dosage or suspend treatment.
Psychosis ..	Cortical effect *plus* personality of patient.	A dangerous development; may become irreversible unless therapy suspended. It is unwise to use cortisone or ACTH in patients of unstable personality type.
Status epilepticus	Preexisting cerebral dysrhythmia.	Suspend treatment. Unsuitable subject.
Weakness ..	Hypopotassæmia.	To be watched for constantly. Electrocardiogram shows depressed *S-T* segments and flattened *T* waves. Serum potassium level low, but this is a difficult laboratory estimation unless flame photometer is used. Treatment: Give potassium chloride by mouth 1·0 gramme three times a day. Avoid use of diuretics when using cortisone or ACTH.
Glycosuria ..	Gluco-corticoid effect on carbohydrate metabolism.	(*a*) In diabetic subjects daily dose of insulin may be increased up to double normal requirements. (*b*) In other patients glycosuria usually indicates impaired carbohydrate metabolism becoming overt under influence of high gluco-corticoid dosage. Either reduce hormone or give insulin.
Abdominal cramps	Posterior pituitary extract contaminating ACTH.	Not seen with cortisone, nor with purer preparations of ACTH. Symptomatic treatment only.
Œdema	Effects of mineralocorticoids.	More frequently seen with ACTH than with cortisone. Usually transient. Reduce dose if marked. Avoid diuretics as potassium may be lost in excessive amounts.
Gain in weight ..	(*a*) Physiological.	Due to increased appetite.
	(*b*) Due to œdema.	See above.
Blood changes ..		Usually show response to treatment as in rheumatoid arthritis. (1) Return of hæmoglobin towards normal. (2) Improvement in red cell count. (3) Restoration of previously reversed albumin: globulin ratio. (4) Return of raised erythrocyte sedimentation rate towards normal. These changes are proportional to dosage and inversely proportional to severity of disease.

[1] More likely in women than in men.

The present position of cortisone and ACTH may be summarized as follows. The use of these hormones must be regarded as experimental and tentative, capable of altering the course of various diseases in a manner poorly understood and potentially dangerous, but apparently incapable of leading to a cure.

SELWYN G. NELSON,
Sydney.

References.

Boland, E. W., and Headley, N. E. (1950), "Rheumatoid Arthritis and Smaller Doses of Cortisone Acetate", *The Journal of the American Medical Association*, Volume CXLIV, page 365.

Carlisle, J. M. (1950), "Cortisone (Compound E): A Survey of its Clinical Use", *British Medical Journal*, Volume II, page 590.

Davidson, L. S. P., Duthie, J. J. R., Girdwood, R. H., and Sinclair, R. J. G. (1951), "ACTH in Hæmolytic Anæmia", *British Medical Journal*, Volume I, page 657.

Hench, P. S., Kendall, E. C., Slocomb, C. H., and Polley, H. F. (1950), "Effects of Cortisone Acetate and Pituitary ACTH on Rheumatoid Arthritis, Rheumatic Fever and Certain Other Conditions", *Archives of Internal Medicine*, Volume LXXXV, page 545.

Koff, R., Rome, S., Kasper, R., Commons, R. R., Button, R., and Starr, P. (1950), "Cortisone in Iritis", *The Journal of the American Medical Association*, Volume CXLIV, page 1259.

Lavery, F. S., Werner, L. E., O'Donoghue, D., Guinan, P. M., and Macdougald, J. (1951), "Use of Cortisone in Diseases of the Eye", *British Medical Journal*, Volume I, page 1285.

Mandel, W., Singer, M. J., Gudmundson, H. R., Meister, L., and Modern, F. W. S. (1951), "Intravenous Use of Pituitary Adrenocorticotropic Hormone (ACTH)", *The Journal of the American Medical Association*, Volume CXLVI, page 546.

Selye, H. (1951), "The General Adaptation Syndrome and Diseases of Adaptation", *The American Journal of Medicine*, Volume X, page 549.

Thorn, G. W., Forsham, P. H., Frawley, T. F., Hill, S. R., junior, Roche, M., Staehelin, D., and Wilson, D. L. (1950), "Medical Progress: The Clinical Uses of ACTH and Cortisone", *The New England Journal of Medicine*, Volume CCXLII, pages 783, 824, 865.

Medical Societies.

THE MEDICAL SCIENCES CLUB OF SOUTH AUSTRALIA.

A MEETING of the Medical Sciences Club of South Australia was held in the Anatomy Lecture Theatre, Frome Road, Adelaide, on November 2, 1951.

The Electrolyte Pattern in Experimental Anuria.

DR. D. A. COATS presented a communication on the electrolyte pattern in experimental anuria. He said that acute anuria, occurring as an episode in the absence of previous renal damage, could be associated with a number of different conditions; crushing injuries, battle wounds, abdominal operations, incompatible blood transfusions, sulphonamide intoxication, blackwater fever, surgical shock, uteroplacental damage, hæmolytic anæmia and alkalosis were some of the more common causes. Whatever the precipitating cause, the renal lesion, for which the term "lower nephron nephrosis" preferred by Lucké seemed most appropriate, was characteristic, consisting of degeneration or necrosis of the thick tubules of Henle and the distal convoluted tubules, with interstitial œdema, pigment casts within the tubules, and little or no alteration of the glomeruli and proximal tubules. The condition was essentially self-limiting; regeneration of tubular epithelium and restoration of normal renal function occurred if death from acute renal failure could be avoided. The mortality of the condition, however, had previously been about 90%.

Dr. Coats went on to say that electrolyte and water balance disturbances had long been known to occur in acute renal failure, but their investigation had not usually been comprehensive in an omnivorous experimental animal. For that reason an investigation had been carried out on nephrectomized rats. Six groups of animals were used, with the following procedure in the respective groups: (*a*) bilateral nephrectomy, full diet; (*b*) bilateral nephrectomy, protein-free diet of glucose and peanut oil (100 Calories per day); (*c*) sham operation, full diet; (*d*) sham operation, protein-free diet; (*e*) unoperated animals, full diet; (*f*) unoperated animals, protein-free diet. Estimations of blood urea, blood pH, plasma protein, plasma chloride, plasma bicarbonate, serum sulphate, serum phosphate, plasma sodium and plasma potassium were carried out at fourteen hour intervals from the commencement of the treatment in question, a total of 112 animals being used.

Discussing the results, Dr. Coats said that groups (*c*), (*d*), (*e*) and (*f*) were all virtually control animals, though blood urea levels in animals fed a protein-free diet (39·4 ± 4·4 milligrammes per 100 millilitres) were lower than in animals

fed a full diet (59·7 ± 1·2 milligrammes per 100 millilitres). Electrolyte disturbances in both dietary groups of bilaterally nephrectomized animals were of the same order, the following mean alterations occurring after fifty-six hours of anuria: bicarbonate, a fall from 24 to 10 milliequivalents per litre; chloride, a fall from 98 to 82 milliequivalents per litre; sulphate, a rise from 0·5 to 12 milliequivalents per litre; phosphate, a rise from 3 to 15 milliequivalents per litre; potassium, a rise from 4 to 8 milliequivalents per litre; sodium, a fall from 135 to 123 milliequivalents per litre; blood pH, a fall from 7·41 to 7·00. The blood urea level rose from 59·7 to 471 milligrammes per 100 millilitres in animals fed a full diet, and to 410 milligrammes per 100 millilitres in animals fed a protein-free diet, after forty-two hours of anuria. Plasma protein levels rose slightly, indicating some degree of hæmoconcentration. Animals fed the protein-free diet usually survived longer than animals fed a full diet.

Dr. Coats said that potassium intoxication or pH fall could account for the death of the animals. In subsequent anuric animals, however, when plasma potassium levels were kept down as low as 5·7 milliequivalents per litre by intraperitoneal injections of glucose and sodium acetate, the same type of death had been observed, casting doubt on hyperkalæmia as an essential cause of death. Sodium and chloride levels were observed to fall in the extracellular fluid, despite some degree of hæmoconcentration, in a ratio different from the normal extracellular ratio, so that the extracellular chloride : sodium ratio fell from 0·72 to 0·68 after fifty-six hours of anuria. The possible significance of this differential movement of sodium and chloride from the extracellular fluid was discussed.

Finally, a technique was described for the histochemical demonstration of chloride in tissues freeze-dried *in vacuo* and then treated with silver reagents and exposed to a carbon arc, and several photomicrographs of these preparations were shown. It was explained that the technique was still being developed, but it was hoped that it might help in determining the nature and extent of the movement of chloride from the extracellular fluid in acute renal failure.

Out of the Past.

In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.

REFORM OF THE CORONER'S COURTS.[1]

[*Australian Medical Journal* (Editorial), April 1, 1847.]

The near approach of another Session of the Legislative Council reminds us that, if anything is to be attempted with a view to effecting a reform in the constitution and practice of these tribunals, it is high time the members of our profession began to think about the matter. That considerable changes are necessary, to make them what they ought and were intended to be, no one will deny. Almost all other institutions of human origin have undergone progressive alterations, to fit them for keeping pace with the extension of knowledge and the increase of a rational philosophy. Too evident traces of the barbarism of the dark ages, however, yet linger about the practice of these courts, and they are tardy in feeling the revivifying influences of reason and common sense. If, however, any substantial and effective reform is to be brought about, it must be sought by very different means from those adopted last session. No partial, isolated and crude proceedings will do any good. Neither can any effectual and well-digested measure be reasonably expected to emanate from the Council, unless prompted by the medical profession. It is they under whose particular notice the evils of the present system (or rather want of system) are daily brought: it is they only who can point out the proper remedy. The council have not the means of knowing what is required, nor, if they had, is it probable that any member of it would take the trouble to frame a suitable bill. They must have the necessary provisions of such a bill laid before them ready cut and dried—that is to say they must be embodied in any petitions that may be presented to them on the subject.

It will not be sufficient that the present Coroner for Sydney nor any number of Coroners be removed: their duties must be defined and enforced by law, and then—and not till then—will there be any probability of the proper performance of them.

We have only a word or two more to say respecting a supposed difficulty in the removal from office of Mr. Ryan Brenan, another instance of whose indecent and contemptuous disregard of the Medical Witnesses Act will be found in another page.

This individual has been heard to boast, that deriving his appointment from the Home Government he cannot be superseded by the Local Authorities. We are convinced to the contrary and for the following reasons:

The Governor's Commission invests him with power to appoint "justices of the peace, coroners, constables, and other necessary Officers and Ministers in Our said Territory and its Dependencies", and of course if to appoint, to remove the one act being a necessary concomitant of the other. Moreover the Privy Council on the Appeal of Judge Willis against Sir George Gipps for removing him from the office of Judge, decided that, upon cause shown and defence heard, the Governor has the power to "amove" a Judge: a fortiori therefore he can "amove" an officer of any inferior grade.

Mr. Brenan's boasting then is nothing but colonial "bounce", and it only requires a little determination and perseverance, to obtain his dismissal from a situation the duties of which he performs, only as his personal convenience or caprice may dictate.

[1] From the original in the Mitchell Library, Sydney.

Correspondence.

RESULTS OF SUBTOTAL GASTRECTOMY FOR PEPTIC ULCER: A REVIEW OF SIXTY CASES.

SIR: Mr. Leo Doyle, in his letter on anæsthesia and gastrectomy, insists upon the advantages of versatile methods over rigid rule of thumb. This goes to the heart of the matter. It is deserving of much respect, because Mr. Doyle has been achieving good results in a large volume of this work over more years than I care to remember.

He asks questions which I will try to answer.

Questions 1 and 7. Mr. McL., with pyloric carcinoma and advanced obstruction. I think that the carcinoma could have been removed by subtotal gastrectomy. While pondering the question of how to deal with the enormous mass of semisolid material in the stomach, I recalled the teaching of Lahey and others that total gastrectomy should be done in every case of carcinoma. In this case it had the advantage of avoiding the difficulty of the full stomach. The completeness of the gastrectomy was therefore based upon a combination of factors. The anæsthetic used was local for the earlier part of the operation, supplemented later by "Pentothal" 1·4 grammes and "Eulissin" 2·0 milligrammes. I do not think that I have ever completed a total gastrectomy under local anæsthesia without supplement.

Question 2. If the stenosis had been due to ulcer, I would have emptied the stomach, as I had done in a patient who, through a nursing error, had been given full diet during the week of pre-operative treatment. After packing off the field, I emptied the stomach through a large incision in the stomach, using the suction nozzle, and a tablespoon for the debris, mostly vegetable. The process took over one hour. Fortunately the abdomen had been opened under local anæsthesia, and the patient was comfortable, but awake, and able to ease position periodically. I encourage this easement of position because it is physiological, helps the peripheral circulation, alters pressure points, and may be of some value in preventing intravascular thrombosis.

Question 8. "If he uses a supplement, how does he manage this so that the induction of general anæsthesia will not be associated with vomiting?" In using local anæsthesia the supplementary general anæsthesia, if necessary, does not become necessary until after the abdomen is opened and the stomach emptied by cannula and trocar and suction nozzle. Supplementary general anæsthesia is thus given when the stomach is empty and vomiting no longer a danger.

Questions 3, 4, 5 and 6 seek clarification of my choice of methods. It is not possible to meet these fairly with a short answer, so I must inflict much detail upon the reader. But

this may be an advantage, because the varied circumstances provide a fairly broad picture of the Australian scene.

A. Private patients. I am able to call upon the services of first-class specialist anæsthetists. Under light "Pentothal" anæsthesia, a field block of the abdominal wall is carried out, the abdomen opened, and then mesenteric anæsthesia is added. Subsequent maintenance is by a combination of methods, which vary as indicated. Some parts of the operation can be carried out under the lightest anæsthesia, indeed under none, for example, the freeing of part of the greater curvature, and the suturing of the anastomosis. Other parts, for example, traction on the lesser curvature and ligating the left gastric artery, cause the lightly anæsthetized patient to strain. Relaxation is often secured by a procaine block at the origin of the left gastric artery. If this fails the general anæsthesia is deepened, by added "Pentothal" or gas or relaxant. Relaxation for closure of the abdomen can usually be achieved by remaking the field block of the abdominal wall which has now worn off. If the general anæsthesia is deepened near the end of the operation, short-acting agents are used. For some steps, for example, the exploration of a tender mass with adhesions about the duodenum, a deepening of the general anæsthesia is usually required. In this form of combined anæsthesia the general anæsthesia is basic, the local is supplementary. In cases of advanced pyloric obstruction, the order is reversed, even when a skilled anæsthetist is available. The local then becomes basic, and the general becomes supplementary, and used only if and when required. This reverse order is used also in some patients severely reduced by acute blood loss.

B. Public hospital cases at a metropolitan teaching hospital. Here, over a period of many years, I have had the help of inexperienced anæsthetists, chiefly in their second year after graduation. They are appointed to anæsthetic duties for three months, not necessarily on the basis of a serious interest or flair for anæsthetics. At the end of this time some are reasonably competent and some still incompetent. In these doubtful circumstances, local anæsthesia is used first and is basic. The operation is completed under local anæsthesia, if possible. If not, supplementary general anæsthesia is given, and its nature varies with the anæsthetist. I prefer that it be "Pentothal" only, because supplementary gas-anæsthesia is more dangerous in inexperienced and incompetent hands. Until recently I found that I could complete the gastrectomy, using local only, in about 45% of the cases. But, ten months ago, I received further assistance, a full-time specialist-in-training, competent in the use of the gas machine. This was a great help. I find that I am completing fewer cases under local only. Completion under local only adds to the physical and mental burden of the surgeon. The more competent the general anæsthetist, the more is his assistance called upon. The use of local anæsthesia tends to vary inversely with the competence of the general anæsthetist. Perhaps I might illustrate the difficulties and methods, in the most up-to-date way, by quoting the last four cases dealt with at Saint Vincent's Public Hospital on the last two operating days before my present vacation, which, incidentally, seems to be fast slipping away while I try to cope with Mr. Doyle's keen questions. On November 27, 1951, gastrectomy for ulcer was done on three patients. The specialist-anæsthetist-in-training was not present. The first two, Mrs. M.D. and Mrs. V.E., had high lesser curvature ulcers, the first penetrating the liver, the second fixed to the pancreas by the dense scar of a healed penetration. In each case local anæsthesia only was used until the duodenum had been divided and inverted. "Pentothal" was then given ("mid-supplement"), until the stomach was freed in the neighbourhood of the ulcer, totalling 1·5 grammes in the first case, 1·25 grammes in the second. It was then possible to block at the origin of the left gastric artery with procaine. The operations were completed without further general anæsthesia, and each patient was able to respond to questioning and to move at the end of the operation. In the third patient, Mr. R.W., operated upon urgently on account of acute bleeding from a posterior-wall ulcer of the duodenum, similar anæsthesia was used, but the "Pentothal" was repeated later in the operation (dose unrecorded) and the patient could not respond at the completion of the operation. Mr. A.G. had an adherent obstructing duodenal ulcer and was operated upon on December 4, 1951. The specialist-in-training was not present, but instead, a new and inexperienced "registrar". Operation proceeded smoothly under local anæsthesia, while the abdomen was opened and the curvatures freed. But freeing the duodenum caused difficulty and "Pentothal" became necessary, but was only partly successful. The registrar, at his own request, then used the gas machine. Later, I noted that the stomach was profoundly cyanosed. I was probably slow in noticing this, because the anastomosis was in course of construction and the field was covered as far as possible by packs. After some alarm and delay, the patient's proper colour was restored. Soon afterwards the registrar noted that the pulse rate had increased and the blood pressure had fallen, and suggested a transfusion. But excessive blood had not been lost and I opposed this. Next day the patient was well and of good colour. Untrained anæsthetists in general hospitals where blood is readily available are inclined to suggest ill-considered transfusions even when transfusion may be harmful.

C. Public hospital cases at a district hospital. Here, the only anæsthetist has been the resident medical officer, who has had no experience or training whatsoever with the gas machine. Not infrequently he has not even mastered the laryngoscope and laryngeal intubation. He is sometimes not even in the operating theatre, but must be retrieved from his work elsewhere, if needed. In such circumstances every effort is made to complete the operation using local anæsthesia only. When the procaine blocks wear off, they are repeated. Supplementary general anæsthesia is used only if and when necessary, and "Pentothal" is the agent. Supplementary general anæsthesia may be "early", "middle" or "late", according to the stage of the operation. Most cases are "late", and the dose used is about 0·5 gramme. Larger doses are necessary for "early" or "middle" supplement.

I would like to heartily endorse the point raised by Mr. Doyle, that the use of local anæsthesia is of value in training the surgeon. It helps to teach that gentleness and delicacy which mean so much. The surgeon acquires a sixth sense. He becomes educated and acutely sensitive to those actions which hurt the patient most and which are most conducive to shock generally and to tissue damage locally.

Finally, in the manuscript of my last letter I wrote of "the pupils of the pupils of Billroth". Part of this phrase fell by the wayside.[1] An anachronism resulted. Mr. Doyle's eagle eye has set at nought my hopes that this would pass unobserved.

Yours, etc.,

235 Macquarie Street,
Sydney,
December 7, 1951.

V. J. KINSELLA.

CANICOLA FEVER.

SIR: In your review of canicola fever under "Current Comment" in THE MEDICAL JOURNAL OF AUSTRALIA, November 17, 1951, page 679, you state: "Canicola fever in one respect resembles brucellosis . . . yet both diseases are relatively rare in man. This is worthy of note in leptospiral infections, for the canine variety has a world-wide distribution, including Australia." From this statement it is possible to infer that infection with *Leptospira canicola* has been demonstrated in dogs and/or human beings in Australia.

Bernard L. Rosenberg, in the recent article to which you refer, includes Australia among countries in which canine leptospirosis has been determined, but does not record human cases of canicola fever in this country. Canine leptospirosis, however, may be caused by a number of species of leptospires other than *Leptospira canicola*. In his review of the literature Rosenberg quotes thirteen species. Gray (*The Australian Veterinary Journal*, Volume XVI, 1940, page 200) isolated *Leptospira icterohæmorrhagiæ* from a dog in Brisbane in 1940. Over the past two years, by means of the agglutination-lysis test, we have surveyed 275 sera from dogs in Australia for leptospiral infection.[2] Using, as antigens, living bacterial suspensions of *Leptospira icterohæmorrhagiæ*, *Leptospira australis* A, *Leptospira australis* B, *Leptospira pomona*, *Leptospira mitis* and *Leptospira canicola*, we were able to formulate the following conclusions: (i) Two sera, one from an apparently healthy dog, the other from a dog suspected of leptospirosis, showed agglutinins of significant titre against an antigen of *Leptospira icterohæmorrhagiæ*. (ii) Two sera showed anti-pomona agglutinins of titres which indicated past or present infection with *Leptospira pomona*. (iii) We found no

[1] The omission of the words concerned was a printer's error. We much regret the omission.—EDITOR.

[2] The results are to be published in *The Australian Veterinary Journal*.

acceptable evidence of infection with *Leptospira canicola*, *Leptospira australis* A, *Leptospira australis* B or *Leptospira mitis*.

We do not consider, of course, that the findings of this survey have excluded the possibility that dogs in this country may be infected with *Leptospira canicola*. On the contrary, we are assured that the problem requires further investigation. However, we are not aware that infection with *Leptospira canicola* has been identified to date in either man or dog in Australia.

Yours, etc.,

B. R. V. FORBES.
J. J. LAWRENCE.

School of Public Health and Tropical Medicine,
Sydney,
December 7, 1951.

CANCER AND THE PSYCHE.

SIR: The following quotation from Weil (*The Journal of the American Medical Association*, Volume LXIV, 1915, page 1283) is of interest at the present time.

> It is a curious and interesting fact that almost every therapeutic claim made in recent years in connection with cancer has included among its virtues the relief of pain. . . . In view of this it is probably fair to assume that the result is in no small measure psychic. The improvement of function is also largely a subjective phenomenon. Improvement in the ability to chew food, to articulate words or to move a limb are familiar phenomena. The victims of this disease seem to be in a very high degree impressionable and respond nobly to every therapeutic effort.

Yours, etc.,

HENRY PRIESTLEY.

54 Fuller's Road,
Chatswood,
New South Wales.
November 9, 1951.

Royal Australasian College of Surgeons.

FINAL FELLOWSHIP EXAMINATION.

THE next meeting of the Court of Examiners for the final examination for Fellowship of the Royal Australasian College of Surgeons will be held at the College in Melbourne, beginning on Thursday, May 1, 1952.

Candidates who desire to present themselves at this examination should apply, on the prescribed form, to the Censor-in-Chief for permission to do so on or before April 1, 1952. The appropriate forms are available from the Secretary, Royal Australasian College of Surgeons, Spring Street, Melbourne, C.1.

Candidates who have been approved by the Censor-in-Chief, but who have not yet presented themselves for examination, may do so at this examination, provided that they notify the Secretary by April 1, 1952, of their intention to present themselves.

The examination fee is £21 *plus* exchange on cheques drawn on banks outside Melbourne, and must be paid to the Secretary by April 1, 1952.

PRIMARY EXAMINATION FOR THE F.R.A.C.S.

A PRIMARY examination in anatomy (including normal histology) and applied physiology and the principles of pathology will be conducted in Melbourne in November, 1952. The examination will begin with written papers on Thursday, November 13, 1952. The examination is reciprocal with the primary examination for Fellowship of the Royal College of Surgeons of England. Each candidate will be notified by post of the result at the termination of the examination. The examination is open to graduates of not less than one year's standing of a medical school approved by the Council of the Royal Australasian College of Surgeons for the purpose. Candidates must submit evidence of their qualification, and of the date of acquirement thereof. Forms of application for admission to the examination may be obtained from the Secretary, Royal Australasian College of Surgeons, Spring Street, Melbourne, C.1. The fee for admission, or readmission, to the examination is £15 15s. (Australian currency) *plus* exchange on cheques drawn on banks outside Melbourne. The fee must be forwarded with the form of application so as to reach the Secretary at his office not later than October 1, 1952.

Diary for the Month.

JAN. 8.—New South Wales Branch, B.M.A.: Council Quarterly.
JAN. 9.—Western Australian Branch, B.M.A.: Council Meeting.
JAN. 10.—South Australian Branch, B.M.A.: Council Meeting.
JAN. 11.—Queensland Branch, B.M.A.: Council Meeting.
JAN. 15.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
JAN. 22.—New South Wales Branch, B.M.A.: Medical Politics Committee.
JAN. 25.—Queensland Branch, B.M.A.: Council Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federal Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178 North Terrace, Adelaide): All Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205 Saint George's Terrace, Perth): Norseman Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

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